

ECHO IRELAND

IRISH RADIO TRANSMITTERS SOCIETY

September 2016 - 84 YEARS



EI0HQ Team Members in the IARU HF Championship 2016 : Bottom Row - EI2JD, EI7KD, EI4BZ, EI5IX

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Contents

Society Officers 2016/17	2
Shannon Basin Radio Club - EI8IU	3
Dundalk AR Society - EI8EJB	3
South Dublin Radio Club - EI9FHB	3
Galway VHF Group - EI5DD	3
Northeast Repeaters Group	3
Cork Radio Club - EI4BZ	4
SEARG - EI2HZB	4
DiGIcon'16	5
Jamboree On The Air - EI2CA	5
Friedrichshafen 2016	6
SOTA Activation - EI3KA	7
SOTA on 23cms - ON4TA	8
A Home "Radar" System - EI6GSB	9
Pictures from the IRTS Archives	10
Island Hopping - LX1NO	11
Examination Report - EI7GY	14
Birdlip Communication Complex	16
Plotting Antenna Response - EI8DRB	15
HF Happenings - EI2KC	19
The EI0HQ Story - EI9FBB	24
The HX Files - EI2HX	26
Contest News - EI7GY	27
EI DXCC Single-Band Status - EI7GY	29
EI DXCC Listings - EI7GY	30
Silent Key - EI5IO	31
Silent Key - GI4MFM / EI9DQ	31
Silent Key - MI0VFO	31
Silent Key - VE3EIA / EI9BD	31
Long Communications	32

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News from around the Clubs

Shannon Basin Radio Club

Brian Canning EI8IU

The Club has had a summer break with only a few activities taking place. The highlight was however the IARU HF World Championship Contest. As several club members are also members of the EI DX Group we had the opportunity to take part in this contest. The EI0HQ station was set up in Garbally College, the same site where the Shannon Basin Radio Club hosts the annual field day contests. The keen testers in the club also took part in the IOTA contest as well as the European HF Championship contest. We look forward to the results!

Dundalk Amateur Radio Society

Brian Whelan EI8EJB

The Society has organised a Radio Shacks Photography Competition. As it is a competition, emphasis should be on a quality photograph. Any shack of any size is eligible. You should email your photograph (1 to 3 Mb in jpeg format) to myshack@ei7dar.com. A €5 entry fee is payable on PayPal, and the closing date is Friday 10th February 2017. Full details on ei7dar.com.

Winners will be announced at the 2017 IRTS AGM in Dundalk.

Brian EI8EJB has kindly created a useful online directory of amateur radio repeaters and gateways operating in Ireland, to include frequency and tone information. ei7dar.com/ei8ejb.html

South Dublin Radio Club

Daniel Cussen EI9FHB

The club is proud to announce that three of the four members who sat the recent radio theory examination have been successful. Listen out on-air for Alan EI7HNB, Keith EI7HEB and Albert EI7HNB. More members are hoping to take the next examination. Thanks to Philip EI8JT for running the classes.

Correction

Spring edition of Echo Ireland and Avondhu Radio Club

The picture published should have referred to; "Dawid Zielinski with Joe Cherry making QSOs with a home brew 20m dipole on a TS2000, at EI1E". The reference to Mr Hans Krauss EI9GRB and Seiorse Neilan during 70cm VHF/UHF Field Day was in error.

Our apologies.

Galway VHF Group

Steve Wright EI5DD

IRTS President Gerry Gervin EI8CC met with members of the Galway VHF Group in Galway. Club members discussed a wide range of topics and demonstrated some of the work they are doing with technologies such as Raspberry Pi and Red Pitaya. This edition of Echo Ireland has an article by Gerry EI9DRB on work he has done with the Raspberry Pi.



IRTS President Gerry EI8CC presents the Sheila Piper Cup to Steve EI5DD for services to IRTS News media, surrounded by members of the Galway VHF Group

Northeast Repeater Group



*Group Members
Ronnie EI9ED, Pierce EI4CI, Mick EI2DJ*

Cork Radio Club

Dave Moore EI4BZ

Cork Radio Club meets on the second Wednesday of each month at Carrigtwohill Community Centre with a starting time of 8.30pm.

Congratulations to the CW team who won the restricted section in the June CW Field Day, and the club will be operating in the open section in the SSB Field Day on the 3rd and 4th of September.

Preparations are well in hand for club participation in the Jamboree On The Air on October 14th to 16th.

The weekly IRTS Radio News bulletin is at 8pm every Monday night on the Cork Repeater. Listeners are encouraged to stay on frequency after the bulletin and also to support the Cork Repeater activity night at 9pm every Thursday.

Anyone interested is invited to call to Carrigtwohill Community Centre on the second Wednesday of any month. Further information is available from Dave EI4BZ on 087-6290574 or ei4bz at eircom dot net.



Dave EI9FBB operating CW Field Day



Jerry EI6BT operating CW Field Day

SEARG

Sean Byrne EI2HZB

Pictures from The South Eastern Amateur Radio Group's activation of the Copper Coast Geopark in Bunmahon, County Waterford as part of the European Geopark's weekend on the 28th & 29th May 2016



Selection of station antennas



All systems go at EI2GEO 2016



Dennis EI2HSB and John EI3HQB have a chat



Martin's (EI2HIB) portable station



EI2WRC members and friends



Eoghan's (EI5HBB) station in a case



Martin EI2HIB and Wayne EI7HKB



Mark EI7IS gets the cooking underway



Jim EI8IG, JJ EI7HGB and Patrick SWL

DiGIcon'16

DiGicon will be held on 24th September, 10.30am to 5pm
Admittance is £3.

The venue is Portadown Golf Club, 192 Gilford Road, Portadown BT63 5LF. The days agenda will consist of talks on digital voice and other digital modes. Attractions include Catering, Lectures/Seminars, RSGB Book Stall.



Scouts Jamboree On The Air

Scouts Jamboree on the air, **JOTA**, is the largest international event in Scouting and takes place over 14th, 15th and 16th of October. Scouts groups would be more than grateful for offers by individuals or clubs to demonstrate radio communication and place a station on air to enable them to communicate with other scouting groups. Please contact Paul EI2CA (paul@comma.ie) for details.

Friedrichshafen 2016

Shannon Basin Radio Club member Brian EI8IU and Junior Op James travelled to Ham Radio in Friedrichshafen in June.

Running at the same time was Maker Faire Bodensee, a playground for hobbyists from the tri-country region. During the three days, 198 companies and associations from 36 countries exhibited their services and products at Ham Radio. The flea market area again proved to be a real treasure trove as well as place to meet and talk shop.

The intrepid pair report that they came home with a lot less euro but laden with lots of "goodies"! EI8IU also had the pleasure of getting a QSL card hand delivered by Igor UR5LCV who was using the club station UR7D.

Gerry EI9DZ and Seán EI7CV were also busy in Friedrichshafen manning the Irish Ballooning and Amateur Radio Club stand.

Seán EI7CD, Dave EI3IO and Séamus EI8BP took time off from the Flea Market to get involved in various IARU matters. Séamus also had a meeting with Francesco IK0WGF ARRISS EU Schools Selection Manager.

Daniel EI9FHB demonstrated his state-of-the-art self-designed portable satellite antenna rotator which had been previewed earlier in the year by members of South Dublin Radio Club. The design evoked significant interest at the Fair.

Next year Ham Radio is at the later date of **July 14-17 2017**



Brian EI8IU receiving hand-delivered QSL Card from Igor UR5LCV



Daniel EI9FHB and his self-designed antenna rotator



Seán EI7CV and Gerry EI9DZ on the Ballooning and Amateur Radio Club of Ireland stand



Emanuele I0ELE (Chairman ARISS EU), Dave EI3IO, Daniel EI9FHB, Séamus EI8BP (ARRISS Schools Mentor for EI), Francesco IK0WGF (ARRISS EU Schools Selection Manager)



Planning a Successful SOTA Activation

John Smyth EI3KA

Activating from Ireland's 389 EI and 65 GI SOTA summits offers a wide range of challenges, both physical and technical for the portable operator. Regardless of elevation, each summit offers a unique challenge, where personal safety and planning must be taken seriously. Every summit offers its own unique challenge and the level of effort expended is not always rewarded by the elevation based logic of the SOTA scoring system!

In this article, I have assumed that all proper preparation has been made in terms of mountain craft and equipment. The aim is more to highlight the basic practical technical considerations made when planning a successful SOTA activation. Influencing these considerations is the uncertainties of weather, local access, ease of navigation, time constraints, propagation conditions and radio contesting schedules. When considered in the round, the probability of achieving the minimum 4 simplex summit QSOs is a little less than you might think. Proper planning is the key.

SOTA Bands and Modes

The simplest form of portable operation is obviously made from a 2m FM handheld. However, since valid SOTA qualifying QSOs must be simplex, the chance of achieving four is by no means certain. On a recent holiday trip in the southeast where I activated six summits, I managed just four 2m FM contacts using a 5-element vertical yagi, only one of which was an EI.

For the best chance of success, HF is the way to go. Within Europe, the most popular SOTA bands are 40m, 20m and 30m. Activity occurs around the recognised qrp centres of activity. My usual strategy is to start with 20m phone. Depending on the time of day, this will normally result in a mini pile-up of QSOs with a number of active regular SOTA chasers and, particularly at weekends, a smattering of summit -to-summit contacts with fellow activators.

Once the first four QSOs are in the log you can relax a bit. This means that objective number one has been achieved - securing the points for the summit. Once the mini-pileup has subsided and further calls are unanswered, I usually switch to 40m phone, which usually results in QSOs with UK/NI and low country chasers, who were too near for 20m.

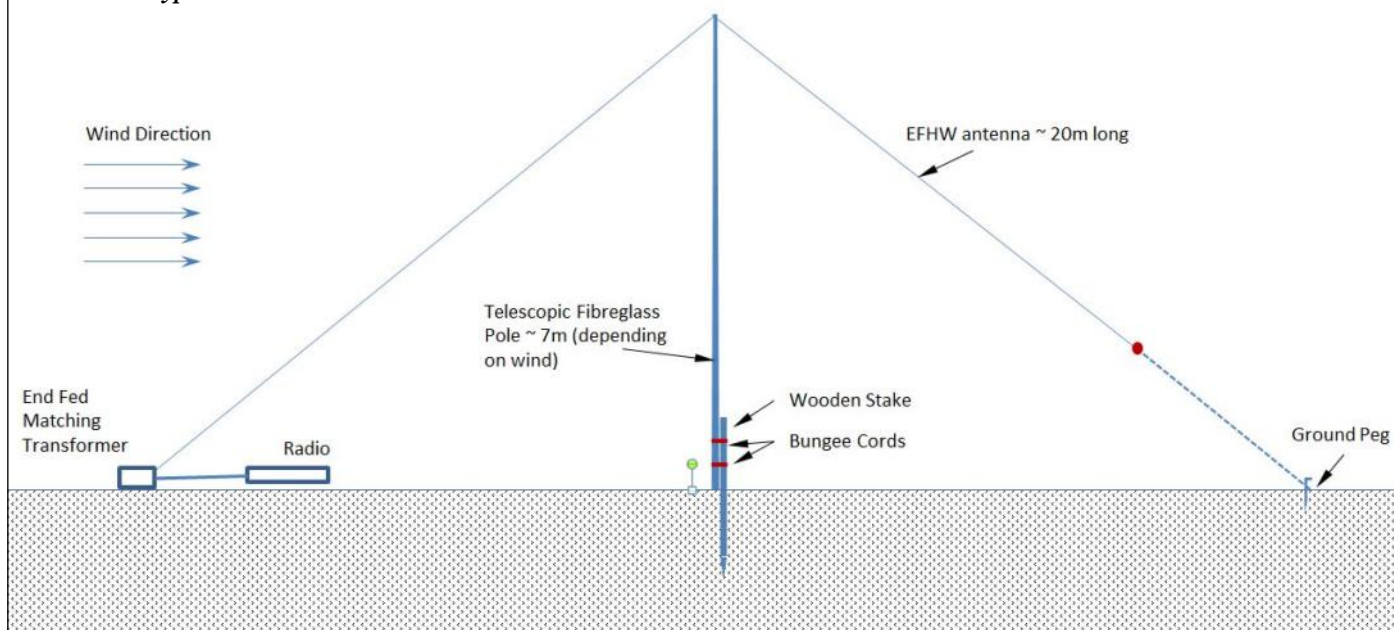
CW is a great mode for SOTA also and there are times when it is also the best choice. It's frustrating when your weekend opportunities coincide with great weather for walking, good HF conditions - but also one of the major SSB contests. Competing with the 1kW+ brigade can be futile even if you are on recognised qrp frequencies. On these occasions, the WARC bands, particularly 30m CW is very useful.

There are occasions when, despite the best of planning and preparation, the QSOs just don't happen. Bad band conditions and luck sometimes result in failed trip. Late afternoon and early evening, particularly during the week can be a quiet time on the bands. If all fails and less than four QSOs have been logged, all is not lost - although no points can be claimed, provided at least one QSO has been made, activation credit for the summit is acknowledged.

Antennas

For portable HF operation in the 40m-20m range, I've found half wave inverted v wire antennas, supported by a telescoping fibreglass pole to be the most practical. I have experimented with doublets, dipoles and end-feds. Each has its own advantages; my favourite being the end fed half wave, which doesn't require a feeder and balun to be supported by the pole. This works well for 40m and 20m. For multi-band use including 30m, a linked dipole is useful. This is basically a 40m half-wave dipole with a two breakable links on each leg, allowing resonant operation on 40m 30m and 20m. The downside of this system is that the antenna has to be lowered to open or close the links each you change bands.

Typical SOTA Antenna Installation





Summit of Ben Lugmore County Mayo

A commercial version is made by Sotabeams, which uses small crocodile clips for the links and lightweight RG174 feeder and weighs only 500g! Miniature lightweight traps are also available to perform the same function.

Finding the best location to erect the antenna is the first task when you arrive at the summit. It may be convenient to just to use the available 'summit furniture', i.e. trig pillars or cairns to attach the antenna to and to take shelter behind, but I try to avoid this, if at all possible. We have to share the mountains with others and most won't want their peace and quiet spoilt by some idiot shouting CQ and creating trip hazards. Since the rules specify the activation zone as any point within a 25m vertical distance of the summit, there is usually a quiet spot where there is both shelter and



Operating from Summit of Nephin, County Mayo in January

Summit Activation on 23 cms

Phil ON4TA, a frequent visitor to Ireland and one of the most prolific Summits On The Air (SOTA) activators of EI summits, was in Ireland for a few weeks in June and July. His SOTA activations included summits in Wexford, Wicklow, Laois, Armagh, Tyrone and Donegal.

During his activation of Trooperstown Hill in Co. Wicklow (*photo opposite*), Phil had two QSOs on 23cms, including one across the Irish Sea with a station in Wales; this was the first recorded 23cms SOTA activation in EI.

somewhere dry to sit. Headphones or headsets are also very good ways of minimising intrusion on others. I usually carry a small 2x1 timber stake, which I use to support the telescopic pole with bungees. My preferred set up is in shown on the previous page.

Alerts and Spotting

The SOTAwatch website provides an excellent activation alert and spotting facility where you can give advance notice of the details of your planned activation, including time, planned bands of operation and modes. It can be tricky to be precise when posting an alert, as plans can change and walking times can be over, or (more usually) underestimated. However, it is good courtesy to keep the alert as up to date and accurate as possible, as active chasers will go out of their way to work you. As you become more active, you will get to know many of the regulars, a number of who are also very accomplished activators in their own right. Once you have set up and are QRY, the ability to announce your activation by self-spotting is vital. Without spotting, QRP level signals, particularly SSB will struggle to achieve more than a handful of contacts. Obviously, the spotting facility requires a data connection but up to now I've never had a problem with access on an Irish summit. A fall back is the ability to self-spot via SMS. Each time you change bands or frequency, a new spot is posted.

CW offers a unique advantage when it comes to self-spotting. The reverse beacon network allows CQ calls with the SOTA keyword to be listed automatically in the Sotawatch spots, providing the callsign has previously posted an activation alert for that day. This is very useful if you know in advance that data access is likely to be unavailable.

Reporting and logging

The final act in the activation is uploading your log to the SOTA database. There is no exchange of QSLs required for activator or chaser, the system is an honour one. You can, as a crosscheck, interrogate the database to see which chasers have logged your call, or the summit you activated on a given day. Once you have submitted your log, the database updates your statistics with the points and the summit credit as the latest (possibly the first) activator.

If you get this activation process, the likelihood, I hope, is that you will want to do it again! Take the lessons from your experiences; enjoy the technical challenges it brings and the sense of achievement in your success, not to mention the camaraderie and friendliness of the SOTA community on air.





Building a Home “Radar” System

Conor Farrell EI6GSB

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Many of you will probably have heard of the RTL R820T tuner, which is a low-cost software defined radio dongle that plugs into the USB port of your computer. Older versions of the tuner don't cover HF bands without modification, but they allow you to listen to a variety of different modes from about 50 MHz up (a recently released version, which I've just ordered, *does* cover HF bands: I'll report back on this at a later date!). The device works in conjunction with software on your computer: I often use SDR# - pronounced SDR-Sharp - which is straightforward to use and provides graphical representations of the signals received.

However, there's one frequency I want to talk about today, and that's 1090 MHz, the frequency used to transmit ADS-B signals from aircraft. These signals contain information about the aircraft, such as its callsign, position, heading, speed, and so on. In this article I'll show you how to use an RTL-SDR dongle to receive these signals and to make a “radar” on your computer. I'll also demonstrate how to build a simple antenna to greatly improve reception of ADS-B signals.

First thing's first: you will need to install some drivers to use your RTL-SDR. Go to <http://zadig.akeo.ie/> and download Zadig. Next, plug your RTL-SDR into a USB port, and open Zadig. Click on 'Options' and make sure 'List all devices' is checked. In the dropdown, select 'Bulk in, interface (interface 0)' and you should see your RTL-SDR listed in the box next to 'Driver', which will be labelled something like 'RTL2832U'. You may also see that label instead of 'Bulk in, interface' in the dropdown; if so, select that instead. Finally, click on 'Replace drivers' and let Zadig do its thing. If you have difficulty in setting this up, I thoroughly recommend the page at <http://www.rtl-sdr.com/rtl-sdr-quick-start-guide/> which will give you some extra information if you run into problems, though setting this part up is very easy and I've never had any problems.

Now that your RTL-SDR is ready to use, we can get onto the fun stuff. Go to <http://rtl1090.web99.de/> and scroll down the page to find 'RTL1090 "SCOPE"'. Download and install it. This is what we'll use to decode aircraft signals and plot them on a map. Once installed, open it up.

Your RTL-SDR USB dongle should be plugged in at this point, and connected to an antenna. The device should come



with a short stock antenna, so attach a length of wire to it to improve reception. Click 'Start' on the RTL1090 screen, and you should soon see some data come through on the program's pane. Along the bottom you'll see a number of tabs. The 'List' tab shows the encoded data streaming from aircraft, and the 'Table' tab shows the data after being decoded, so you can see aircraft details. There are 'II/SI' and 'Stats' tabs which show some more information, but the really useful one is the 'Scope' tab.

Click on the 'Scope' tab and you will get a pop-out pane showing a map. The map probably won't be centred on your location, so use your mouse wheel to zoom out so you can get your bearings, then drag the map to where you are based. If there are aircraft in your vicinity they will show up on this map, and you'll be able to see them move about.

I made a short video for YouTube showing the program in action, which you can view at <http://tinyurl.com/EchoIrelandADSB>

This is the same technology used by the Flightradar24 website, where people around the world automatically upload data to the site so it can be viewed by others.

After setting up the software to view aircraft and make my own “radar” system, I decided to construct an antenna to improve reception of ADS-B signals, and it's performing very well. It's an easy project and can be completed in under 30 minutes using some leftover coaxial cable. It's a collinear dipole array made up of half-wave elements (allowing for velocity factor of the radio waves in the cable).

To make the antenna, cut some 75-Ohm coaxial cable into 15cm lengths, and from each end remove 2cm of shield braid and insulating, leaving the centre wire intact. I made five of these elements, but you can make as many as you wish.



RTL R820T Tuner

Next, get a small square of insulating tape and push the centre wire of an element through it, then push that wire into the braid layer of another element. The tape stops the shield braids in each element touching each other. Repeat this until all your elements are connected, centre wire to shield braid. Leave the protruding lengths of centre wire as they are; there's no need to clip them off.

Attach a feed line from one end of the antenna. For this I used some more coaxial cable, onto which I added a connector to go to the RTL-SDR. I placed the collinear dipole array into some plastic plumbing piping to keep it steady, and sealed up the ends with insulating tape.

I immediately saw a huge improvement in signal quality once I began using this antenna. With it, I tripled my reception radius out as far as North Wales, and the number of aircraft in the 'Table' table of RTL1090 jumped dramatically.

This is a really interesting project to do, and it's fun to see the aircraft on your own screen, their signals being pulled in from the antenna next to you. You can pick up an older



Hand-cut Collinear Elements

model of the RTL-SDR dongle for about €16, and a newer model (with HF capability and other improvements) for just under €25. You'll find them on Amazon and on www.rtl-sdr.com. Aside from picking up aircraft signals, the tuner is great for a host of other projects so it's a good investment for tinkering with projects like this. I find it's also useful when I build transmitter circuits: I can easily use the device to ensure my signal is transmitting correctly.

Pictures from the IRTS Archives



South Dublin Radio Club members pictured with Bob KB1AU, visiting in 1987



IRTS AGM, Limerick 1987

Rear : EI4EY, EI8EM, EI6CJB, EI6CE
Front : EI5DH, EI2AW, EI6AXB, EI3FX



1986 Jamboree On The Air.

Scouts from Greystones Troop operate EI4GST with Wicklow Amateur Radio Club members in St. Killians's Hall, Greystones

Island Hopping

Norby Oberweiss LX1NO/EI8KD

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Friends of friends or Islands, we do them all.

It's been about a year ago when a friend of my wife told her that she has friend in the Wexford area who runs a horse-riding school to learn English. What sounded a bit weird at the first moment developed into something great. English classes start quite late in Luxembourg (8th class) and, since that's been the first year of English at school for our eldest daughter, we thought it would be a good opportunity to improve her command of English. So, we got into contact with the owner and we agreed on the first two weeks of our school holidays. Now, we just had to agree on the means of transportation to EI. 2 options: let her fly on her own to Dublin and get her picked up the owner or, and that's when the ham comes into play, we drive into EI on our own and do a tour around the southern and western coast line during these two weeks as we did some eight years ago. At the same time, I could hopefully look at those two IOTA references I did not manage to operate from last time, EU-103 and EU-007, including Dursey Island which we missed due to fog. Although they allowed us to do the trip to the island, we were not allowed to leave the cabin.

So, we set up a schedule to include all EI IOTA references and we started to get family room bookings for the B&Bs. Galway was particularly difficult until I found out why: horse race week, but we managed this as well.

The trip started on 15th July at 11 pm for Calais. The ferry was scheduled for 4.30am, it's basically an easy four-hour journey but due to known security circumstances, it's been wise to show up early enough. We caught some sleep on the ferry to Dover and upon arrival hit the road again for Fishguard. We finally arrived at destination around 6.30 pm and after a couple of Guinness we caught some sleep.

IOTA EU-103 Great Saltee

Sunday early morning, sunshine, a couple of clouds. Time to get ready for EU-103. The stay on the island would be very short since we had other plans for the afternoon.

Unfortunately for me the owner was on the island, so landing could not take place before 1000z. The 20min drive to Kilmore Quay was easy going but the further south I got the more fog there was. Will I be able to see anything on the island? I parked the car and walked over to the ferry place. I was first but was soon joined by birders who asked me if I'm a birder. I denied and explained my goal. Not sure if they understood why I wanted to be on the island.

The trip started and the closer we got to the island, the less fog we had with finally a great view on both Saltees. We arrived at 1000z precisely but unfortunately for me again, the first transfer on the dinghy wasn't for passengers but to supply food to the owner. I eventually made it into the dinghy for the first passenger transfer. It's been 1025z by now and I was scheduled to be picked up by 1130z. Not many options: Either setting up the station at the beach and being covered by the hill towards EU but being on the air much sooner and longer or trying to gain some height and probably having to sit on a footpath and still being covered somewhat by the hill

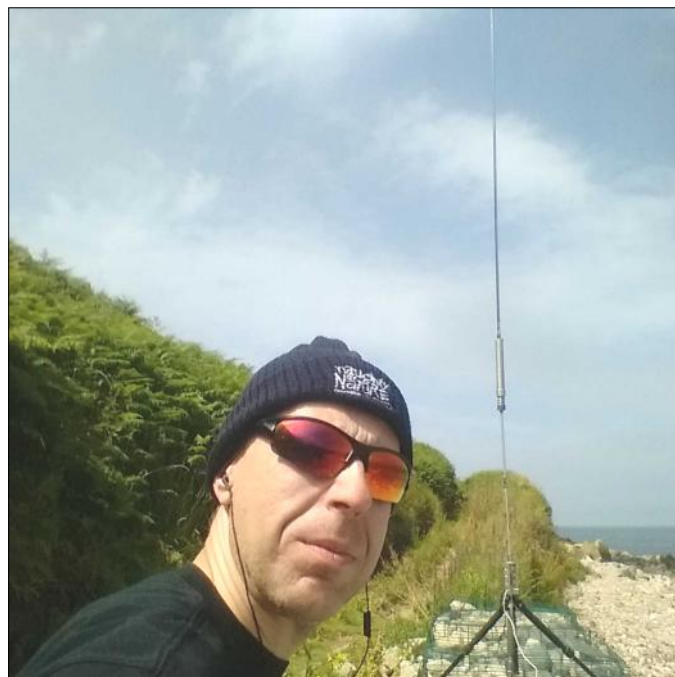
but having less time to operate. I went for option 1. Due to my experience with real fast SOTA activities, my station was set up in roughly five minutes. It is always an FT-857D, some type of 10Ah battery, a Palm keyer and the reliable MP-1 antenna. I'm usually running a bit less than 50W to save battery and never operate phone.

I started CQing on 40m but nobody seemed to be able to pick up my signal. Starting to get nervous because of this, I sent an SMS to one of my buddies to put me in the cluster and finally somebody showed up. What a relief. But seven QSOs in ten minutes is not really great. My signal must have been weak although most of the time I got those fake 599 reports. At around 1102z, I decided to give 30m a try which was followed by another eight QSOs until 1115z.

Since I had a great and sunny view across the sea, I could see the boat approaching. I quickly packed up everything and made my way to the dinghy. So, EU-103 resulted in 15 QSOs in twenty-five minutes. Not really great but one more EI reference to be deleted from the to-do list.

SOTA IE-069

The plan was to drive to Kilkenny during that Sunday afternoon and as it happened to be, there's a SOTA reference right beside that road. Lucky me I thought when I planned the trip ;) Weather was still great and so I parked nearby where I left the family and made my way up the hill. The start was super easy but then a marker told me to turn right. Well, I could see the footpath but it was mostly covered with bushes. Not that nice as it resulted in a lot of scratches. I eventually made it to the top where I was greeted by a nice view all around. Quick station set-up followed by lots of unanswered CQs. Finally the four needed contacts made it into the log. While checking time,



Selfie EU-103



The shack EU-103

I noticed that I already spent way more time on that hill than initially planned. The family was waiting. The log shows nine QSOs in seventeen minutes which is way below my average rate. Anyway, again back through the bushes just to add more scratches.

IOTA EU-121 Cape Clear Island

Thursday morning 21st July. The forecast was for grey sky but hardly any rain (or alike). We decided to give EU-121 a go. We knew it would be a long trip followed by a short activity. So, we made it to Baltimore where we got on the ferry. The trip was ok although the rest of the family decided to get inside. I quickly left the ferry to set up the station at the pier. This would be a real short activity, even shorter than EU-103. Unfortunately, drizzle made it to the island which did not really help with my paper log. Finished doing nine QSOs in fourteen minutes. Again lots of unanswered CQs.

SOTA IS-115 Dursey Island (EU-115)

Finally, Dursey. Blue sky, plenty of sunshine, no fog, hardly any tourists at the cable car station at 0900z. We arrived, jumped into the cable car and were on the island in no time. Perfect. Since it's a longer way to walk to the summit, I calculated about two hours of walking to get up and down (not knowing the terrain) and half an hour of operation. Well, I made it to the summit in roughly forty-five minutes and set up the station south of the left over of the building. I was soon surrounded by plenty of sheep :)

It's been a slow start again but when the first ones picked up my signal the flow of callers was quite steady. 40m proved

again to not really work from that far west of EU with just two contacts but 30m was doing great. The result was twenty-six QSOs in twenty-nine minutes.

This time I was more lucky, since most contacts could be done without drizzle but it set in towards the end of my activity. The building gave me some protection but I still had to pack up things slightly wet. Of course, on my way back to the cable car, sun's been shining again. Hey, it's summer time.

SOTA IS-127 Dingle peninsula

Next stop that same day was Dingle and from our last visit, I knew there's a SOTA summit overlooking Dingle. Timewise we were good, so enough time between the arrival at the B&B and dinner. I drove on the peninsula, paid my fee to a young lady at the gate and quickly walked uphill. The weather was still fine and no bad clouds to be seen. Thirty-five minutes of log data included eighteen QSOs across 40, 30, and 20m. Lots of CQing again but it's been ok. I decided to call it a day as both of my batteries needed to be charged to be ready for the next day on EU-007.



Dingle Shack

IOTA EU-007 Great Blasket Island

We were closely observing the development of the weather prior to the planned all-day trip to the Great Blasket island. Finally, it looked rather good so we went ahead and booked online as we wanted to be sure to be on the trip. An all-day trip means a three-hour stay on the island followed by a boat trip around the islands before heading back. So, we arrived in time, boarded and off we went for the one-hour journey. The sea was quiet, so no big deal. We had to use a dinghy again to get on the island. It's been rather busy already as there are were plenty of other tourists coming in with the regular ferries. The island itself is great but only the eastern part is actually being "used". I quickly set up the station and started CQing. It went from no callers for a while to lots of callers in waves. The most productive band was 20m, with only three contacts on 17m and some on 30m. Altogether, I ended up with eighty QSOs in two hours and both batteries being almost flat.



The Shack EU-007

IOTA EU-006 Inis Mór



The Shack EU-006

According to the forecast, it should be rather OK with just two periods of showers. Well, the journey to Inis Mór was easy going, picking up a bike was straight forward and off we went to drive along the normal tourist route. Good idea, but it included a first stop behind a shelter as a shower was coming in. Fortunately, it did not last for very long. Further down, we split. The rest of the family did their own thing while I decided to drive atop the hill to find a decent place to operate from. I finally found one, behind a protective wall for a reason and overlooking the village.

The start from EU-006 was much better with less CQing. It's again been two hours of operation resulting in 107 QSOs on 30m, 20m and 17m. Unfortunately, the activity as such was a little bit more "complicated" as there were plenty of showers coming through and it's always been a fight to protect the radio and the paper log from getting too wet.



Norby LX1NO and Pat EI9HX

Other meetings

On the way to Dublin, we stopped at Pat's EI9HX QTH to chat and I was allowed to do a couple of contacts from his nice set-up. I'd wish I would have such a low noise floor. Later on, while in Dublin, I enjoyed a couple of pints together with Peter EI7CC and Séamus EI8BP and we managed to solve most world problems!



EU-007



Amateur Station Licence Examination Report 2016

Joe Ryan EI7GY

joe.ei7gy@gmail.com

Amateur Radio is an unusual hobby in that, to fully participate in it requires a licence, and this licence has to be earned by passing an exam. Some of us starting out may have felt that the process of getting an amateur station licence is unnecessarily burdensome. However, once we pass the exam and set up our amateur station, we recognise that the licence gives us the freedom to use a wide range of frequency bands and modes throughout the radio spectrum, and that this is a very valuable privilege considering the vital role that the radio spectrum plays in our everyday lives. Passing the exam also gives us the internationally-recognised **Harmonised Amateur Radio Examination Certificate (HAREC)**, entitling the holder to obtain an amateur station licence, subject to local regulations, in almost fifty countries.

Most candidates who sit the exam pass at the first attempt, and indeed many of those who don't reach the required 60% are not far off the mark. We highlight here some of the areas that seem to be causing the greatest difficulty; a bit more focus on these areas could make all the difference.

Section A – Amateur Radio Regulations and Related Topics – four topics

Licensing Conditions

Exam questions under this heading cover specific aspects of national and international regulations and guidelines. The content that is relevant for exam purposes is set out in the Syllabus and is also covered in the Course Guide. This is a critical area that any regulator and existing amateur radio operator would expect a prospective licence holder to be very familiar with, yet the number of incorrect answers around basic knowledge such as band limits, power limits and permitted modes is surprisingly high. It is also clear that some candidates are taking the exam without an understanding of some of the fundamental Radio Regulations governing radio communications: questions on permitted communications and emission designations are frequently answered incorrectly.

Operating Procedures

This topic is mainly about the rules and practices developed over the years by radio amateurs to manage their own conduct in the interests of the radio amateur community; EI licence holders have a deservedly high reputation for good behaviour on air, and it is important that this reputation be maintained. Prospective licence holders need to be able to demonstrate that they are familiar with accepted procedures. Band plans, which are maintained by the International Amateur Radio Union (IARU), are key components of the self-governing facet of amateur radio so most exam papers will include one or more questions in this area. A high proportion of band plan questions are answered incorrectly. The original IARU band plan documents have been adapted and simplified for exam purposes in the Course Guide. Another area that seems to be poorly understood is the format of CQ calls. On the other hand, we have noted that

questions on the Q-code, RST code and phonetic alphabet have been well answered.

Electromagnetic Compatibility (EMC) and Transmitter Interference

The role that the radio spectrum plays in our everyday lives has already been mentioned; radio amateurs must be able to demonstrate that they understand the causes of interference, so that they can ensure that their activities will not interfere with the different radio services that we all now take for granted – mobile phones, WiFi, TV, Bluetooth and so on. Radio amateurs also need to know what steps might be necessary to deal with interference generated by other devices which could affect reception in their own station. RF filters form an important element of interference suppression, but many candidates were unable to correctly identify different filter circuits, their uses or where best to locate them. Also, questions based on the use of coaxial stubs seem to cause particular difficulties.

Safety

In general, the standard of answering on this topic is good. Problem areas include questions on fuses (including their function and appropriate ratings) and on the danger points in an antenna. Also, the factors that can have an impact on the level of non-ionising radiation do not appear to be well understood.

Section B – Amateur Radio Theory and Related Topics – five topics

Electrical & Electronic Principles including Components and Circuits

Amateur radio is an experimental hobby, and exam candidates are expected to have a basic knowledge of electronics, covering areas such as Ohm's Law and simple components such as resistors, capacitors, inductors, diodes, transistors and transformers. An understanding of some circuits – identified in the Syllabus – as well as alternating current is also expected. The Syllabus and Notes for Candidates provide clear directions on the type of questions to be expected. One point in the Notes, worth repeating here, is that an "intuitive understanding" of how resistors, capacitors and inductors perform in practical circuits is as important as their behaviour in a mathematical sense: in other words *the exam is testing your understanding of the function of components like resistors, capacitors and inductors, and how they interact with AC or DC, not your ability at maths*. This is an important point, because when we review the papers submitted by candidates in recent exams we see that questions involving simple components in series and parallel were answered incorrectly by 40% of candidates. These incorrect answers were unlikely to be due to mathematical errors, as the correct answer should be apparent to anyone with the "intuitive understanding" referred to earlier.

Study Material

We suggest that candidates and tutors obtain a copy of **Studying for the Harmonised Amateur Radio Examination Certificate**, available on www.irts.ie/downloads This document contains ...

The **Exam Syllabus** – essential reading! As well as outlining the topics to be covered in the exam, the syllabus includes –

Notes for candidates – designed to assist candidates and their teachers with their work in preparing for the exam by suggesting certain areas worth focusing on

Four pages of Annexes – containing key information very relevant to the exam questions

Sample paper – a useful guide to how the questions are presented in the exam

Examination Reports – as well as the report in this issue, reports published in 2007, 2010 and 2014 are included. These reports include observations and advice that should be of assistance to anyone studying for the Licence Examination

An online **Course Guide** is available at www.irts.ie/course A zip file of this guide is available on the downloads page at www.irts.ie/downloads for offline viewing. Also available on the downloads page is a **Document Pack** which includes some of the reference documents used in preparing the regulatory sections of the Course Guide.

We also suggest that candidates look at some of the material in the links on the IRTS **Radio Theory Links** page at www.irts.ie/theory

For those who prefer printed material, there are a number of online bookstores specialising in amateur radio material, including those run by PW Publishing and the Radio Society of Great Britain. Note, however, that as the UK amateur radio licensing system is based around three separate examinations [Foundation, Intermediate, Advanced], material on all three examinations would need to be covered by candidates studying for a full HAREC-level examination.

Practical Experience

Experience at setting up and operating radio equipment alongside existing licensed radio amateurs – either in a club or home environment – can make the task of preparing for the licence examination a lot easier and indeed more enjoyable. Learning about topics such as band plans, permitted frequencies or modes and SWR measurements solely in a classroom environment can be difficult, it is far better to pick up this knowledge from operating under the supervision of experienced radio amateurs, using the classroom to complement the know-how picked up during these sessions. To find out the nearest club, have a look at the list of IRTS affiliated clubs and societies at www.irts.ie/clubs.

Other areas causing problems for candidates include amplifier biasing, the significance of the different ways of expressing AC voltages (peak, peak-to-peak, average and RMS), output waveforms of various power supplies and the consequences for a resonant circuit of a high or low Q-factor.

Transmitters and Receivers

This topic covers the key concepts behind transmitters and receivers for CW, SSB, AM and FM. Candidates are expected to have a broad understanding of the nature of the output signal (including bandwidth) for each of these modes, plus the functions of the various stages of simple transmitters and receivers. This can be a difficult area for someone who is not technically-minded. The challenge for anyone tutoring this topic may well be to cover the Syllabus content without making the subject unnecessarily complicated; the Notes for Candidates and the Course Guide can come in useful here. The areas that have caused particular problems for candidates in recent exams include:

- operation of a BFO (beat frequency oscillator)
- balanced modulator usage
- ways of achieving selectivity in a superhet receiver
- high IF / low IF pros and cons
- filter widths for reception of different modes
- calculation of ERP from output power, antenna gain and feeder loss (decibel arithmetic)

In relation to the final point above, those not familiar with “decibel arithmetic” should refer to the Course Guide, which explains it quite simply: *When amplifiers and or attenuators are connected in series the overall gain in dB is calculated by adding (or subtracting) the individual dB gains.*

Feeders and Antennas

This is a very practical topic as most newly licensed radio amateurs can expect to be involved in putting up and maintaining antennas. The questions on Feeders that seem to cause the greatest difficulty were those on velocity factor and characteristic impedance. Turning to Antennas, questions about voltage and current distribution caused problems, as did questions on reactance in antennas that are shorter / longer than a half-wave, and questions about baluns. Also, in a recent exam, one-third of candidates could not correctly identify the length of a half-wave dipole for one of the amateur bands. Some questions on antennas were very well answered, e.g. feed point impedance, and the components or characteristics of Yagi and trap antennas.

Propagation

This is another very practical topic, very much based around ionospheric layers – their location, the influence of the Sun and their effect on propagation. Some topics are well understood, such as the causes of fading and the sunspot cycle. That different ionospheric layers have different characteristics is not so well understood, and

there is clearly some difficulty with the fact that some layers are known to *reflect* radio signals, but this is not the case with the D-layer, which can *absorb* signals. Of course the impact of all the ionospheric layers depends on signal frequency, time of day, time of year and the sunspot cycle.

Finally, here are some other areas that seem to cause difficulties:

The concepts of Maximum Usable Frequency (MUF) and critical frequency

Effect of distance on RF field strengths

Significance of the angle of radiation

Measurements

The amateur station licence entitles us to build and set up our own equipment, so we must be able to demonstrate that we know what instruments to use to ensure that our equipment is operated within the authorised frequency bands and power levels, and that signal quality is within permitted bounds. The Syllabus headings for this topic are divided between 'Making Measurements' and 'Measuring Instruments'.

Reviewing the answers on this topic contained in submitted papers, it is clear that many candidates preparing for the exam are not paying sufficient attention to this area.

Straightforward questions on SWR meters, voltmeters and ammeters are being answered incorrectly by more than half the candidates. Also, the constituents of RF power and measurement methods are not well understood.

This report has highlighted some of the areas that have caused problems for candidates in recent exams. Those preparing to sit their first exam and those who need to re-sit may get some pointers from this. It is important to study the Syllabus and Notes for Candidates – not forgetting the Annexes attached to the Syllabus. We also strongly recommend making use of the Course Guide, which includes in its Introduction: "*while we cannot of course guarantee that every question asked in an exam is dealt with comprehensively in the Course Guide, we are confident that a candidate who is familiar with the material in the Course Guide should have no difficulty passing the exam.*"

Participation in club activities and in a formal course, if available, is also well worthwhile. Listening to the amateur bands in the months leading up to the exam can be very rewarding, being the easiest way of gaining expertise in areas such as band plans and other operating procedures as well as propagation.

IRTS Examinations Board
(Seán Nolan EI7CD, Seán Donelan EI4GK & Joe Ryan EI7GY)

A History of the Birdlip Aeronautical Communication Complex (1940-2015)

Colin McKeeman EI1043

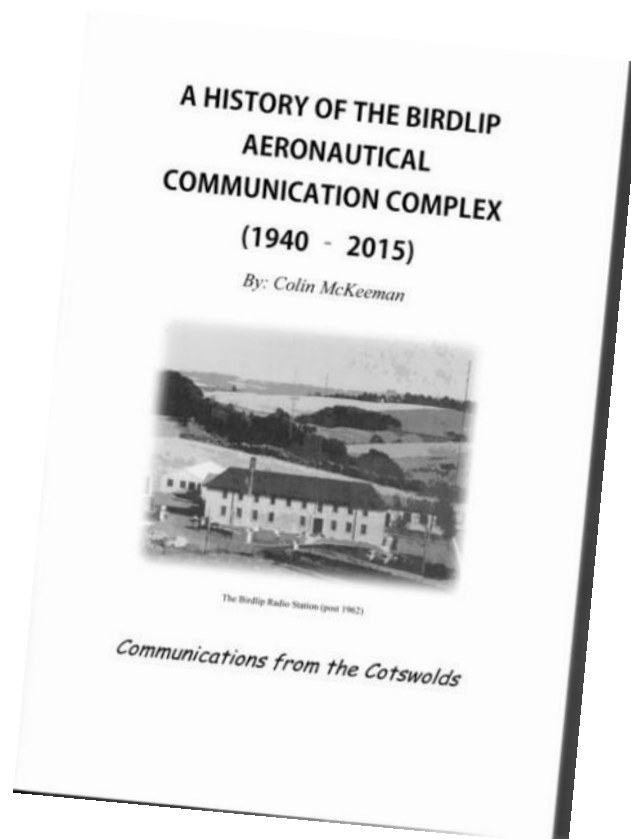
This 329 page soft-back book, with over 170 black and white illustrations, covers the history of this vital HF (shortwave) communications station, which was situated in the Cotswolds region of the UK.

It had very strong and important links with the existing Irish Aviation Authority HF radio station at Ballygirreen, probably best known to aeronautical radio enthusiasts as 'Shanwick Radio'. The book covers the complete history of this station from its wartime beginning until its closure in 1976 and provides an insight into both the operations and staffing at this facility. It is available from the author, Colin McKeeman, "Shanwick", 56 Terenure Road West, Terenure, Dublin D6W E226, Ireland, with payment via PayPal to downrange@eircom.net. The cost is only €15.00 plus p&p. The cover is reproduced at right -

"Congratulations, this is a wonderful volume of work – not just a complete history of the site but the systems used fully explained. Within seconds of browsing its pages I'd found information helpful to our own story at Prestwick."

"Myself and others shall enjoy reading your book. And my old friend, Peter Berry, would have been thrilled with what you've achieved."

Brian (National Air Traffic Control Services, UK)





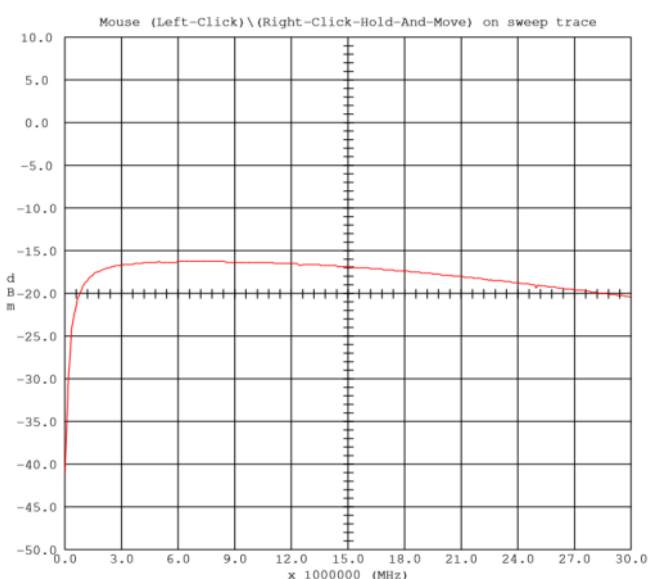
Plotting Antenna Response

Gerry Kavanagh EI8DRB

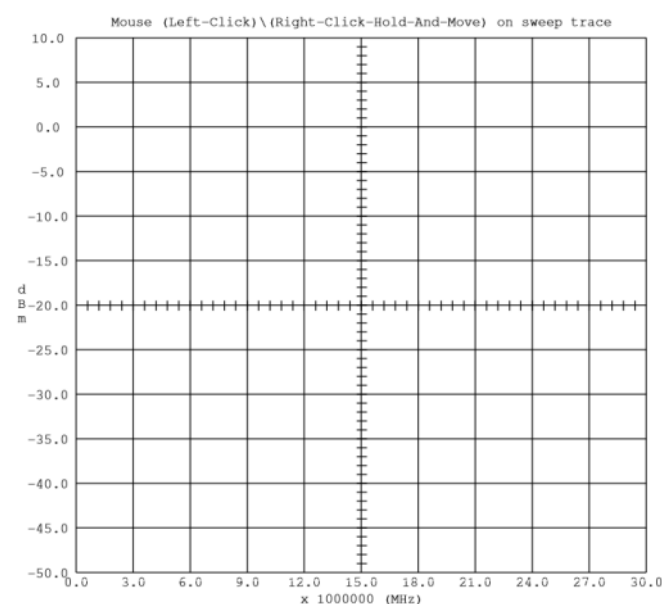
gerryk.com

This article describes my experiences plotting antenna response using a Wobulator and Return-Loss Bridge. The story begins at the Mayo Rally a couple of years ago when Tom Herbison, MI0IOU was selling an interesting kit for the Raspberry Pi. It combined an Analogue Devices Clock Generator (AD9850) and an RF power meter (AD8307) to give a programmable sweep generator and detector... commonly known as a Wobulator. I bought one and had an enjoyable afternoon not long afterwards building it. It was a relatively easy build, and I got some use out of it tuning some Band Pass Filters I had built for use on multi-station portable ops.

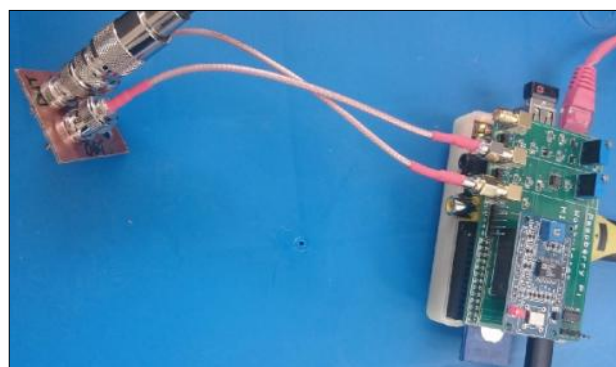
More recently, I came across an interesting addition, a Return-Loss Bridge (RLB). A *return loss bridge* is a wideband resistive bridge network which works by comparing an "unknown" impedance to a "known" impedance. A DC voltage signal is generated which corresponds to the level of impedance mismatch between the "known" and "unknown" impedances. Generally, the higher the DC voltage output, the



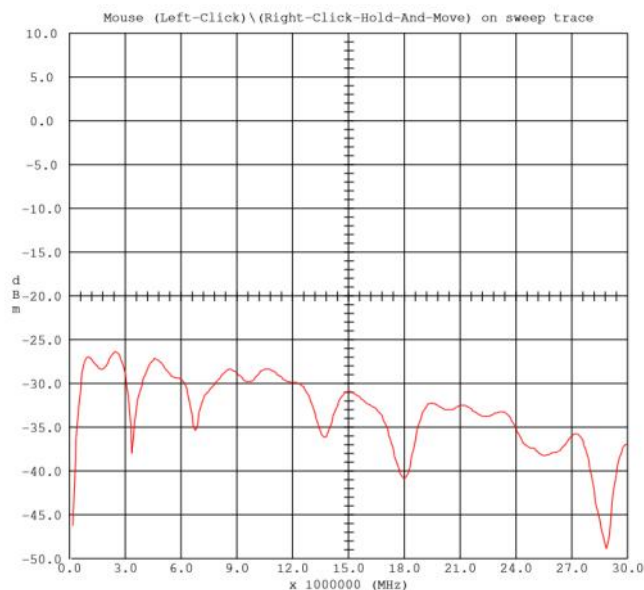
Then I plotted the Open path, giving infinite return loss, as expected (*below*).



I then connected my antenna to the DUT port on the RLB as shown below:



I then re-ran the sweep from 0 – 30MHz, giving the plot below:



From this, we can immediately see that there is a good response curve for many of the amateur bands, particularly 80, 40, 20, 17 and 10m. To calculate actual SWR from these figures we can use the table opposite:

References

MI0IOU Wobblator Kit

Experimental Methods in RF Design

by Wes Hayward, W7ZOI, Rick Campbell, KK7B, and Bob Larkin, W7PUA Published 2003 ARRL.

Available from the RSGB Bookshop

ρ (V)	P_r/P_f (ρ^2)	RL (dB)	SWR
0.00	0.00	∞	1.00
0.05	0.00	26.4	1.10
0.09	0.01	20.8	1.20
0.10	0.01	20.0	1.22
0.13	0.02	17.7	1.30
0.15	0.02	16.5	1.35
0.17	0.03	15.6	1.40
0.20	0.04	14.0	1.50
0.23	0.05	12.7	1.60
0.25	0.06	12.0	1.67
0.26	0.07	11.7	1.70
0.29	0.08	10.9	1.80
0.30	0.09	10.5	1.86
0.31	0.10	10.2	1.90
0.33	0.11	9.5	2.00
0.35	0.12	9.1	2.08
0.40	0.16	8.0	2.33
0.45	0.20	6.9	2.64
0.50	0.25	6.0	3.00
0.55	0.30	5.2	3.44
0.60	0.36	4.4	4.00
0.65	0.42	3.7	4.71
0.70	0.49	3.1	5.67
0.75	0.56	2.5	7.00
0.80	0.64	1.9	9.00
0.85	0.72	1.4	12.33
0.90	0.81	0.9	19.00
0.95	0.90	0.4	39.00
1.00	1.00	0.0	∞

So, for example, the difference between the short at 80m and the return loss at the same frequency is about 20dB, which gives us an SWR of around 1.2:1. This includes co-ax loss however, so the actual SWR at the feedpoint will be somewhat higher.

Andorra returns to 60m, gains new 4m band, more power 6m

In an Andorran government resolution dated 16 June 2016, Andorran amateurs received news of two new bands plus an increase in power in an existing one, following requests from its national society, URA.

60m/5 MHz

Andorra returns to 60m/5 MHz, but this time under the new WRC15 allocation of **5351.5 – 5366.5 kHz** with a maximum power of 15W e.i.r.p. CW and USB is permitted, with a maximum bandwidth of 5 kHz. The permission is temporary until 31 December 2016 and permanent from 1 January 2017. Andorra's previous 60m allocation had been annulled at the beginning of December last year, following the end of the WRC15 Radiocommunications Conference.

4m

A new 4m allocation of **70.0 – 70.2 MHz** has been granted on a non-interference basis with a maximum power of 10W. All modes are permitted and users must abide by the IARU Region One 4m/70 MHz Bandplan.

6m

A power increase has been granted up to 600W.

New Bands for Latvia 60m & 630m

Latvian amateurs have two new bands following the introduction of their new amateur radio licence on August 9th 2016.

Access has been allowed to the new WRC15 60m /5 MHz allocation **5351.5 – 5366.5 kHz** - with a power of 15W EIRP.

In addition **472 – 479 kHz** (630m) has also become available with a power of 1W EIRP

Both bands are subject to a narrow transmit bandwidth of 800 Hz and are permitted to Category A (i.e. top level) licence holders only.



HF Happenings

Anthony Murphy EI2KC

Where is the time going to? It's already August and the summer has really been flying by. Since the last issue, there haven't been any major rare entities on air, so I'm sure many of you will have been tending to the antennas and perhaps been getting a bit of time to indulge in other hobbies. (I know, I know – how can anyone possibly have any other hobbies when they have ham radio?)

Since I last wrote, I had the great joy of being part of the EJ7NET team that activated Tory Island (IOTA EU-121) off the coast of Donegal, and if you will permit me the indulgence, a sizeable chunk of this month's HF Happenings will be dedicated to that trip.

EJ7NET Tory Island

This year's trip was different in that previous activations were held either earlier or later in the summer. This time, our team leader Declan EI6FR wanted to ensure we had the best chance possible to enjoy some activity on 6m, so he timed our activation to coincide with the height of the sporadic E season. Would we have any success on 50 Mhz? Read on...

It's amazing the amount of planning you have to do for even a small, lightweight activation such as this. Declan co-ordinates the team in terms of who's bringing what. The aim with the EJ7NET trips is usually to have around four stations on the air, so months in advance of travelling, Declan begins to put together a list of what's needed in terms of radios, ATUs, PSUs, antennas, feeders, etc. Even down to tables and chairs for operating stations in case the property we rent doesn't have spares.

He sends the list to the other team members by email as a spreadsheet and we fill in whatever equipment we are bringing in our individual column. A week or so before the activation, I start making a detailed list of what I need to bring, under different headings. So I make a clothes and toiletries list (goes without saying!), a radio equipment list, and a photography equipment list. The list has to be specific and detailed. So, for instance, if I am bringing a laptop, I must ensure to bring its power supply. Or, if I am bringing a radio, I must ensure that I also bring the leads that connect it to the PSU. This must all be listed, so every item can be



Declan EI6FR operating 6m

ticked off as it is packed. That might all sound a bit extreme, but there's nothing worse than arriving on an island to find that a vital piece of equipment has been left back in Drogheda!

And so when the day finally arrived, I was being transported from Drogheda to Donegal in a van driven by Dermot EI5IQ and suddenly he's talking about headphones and it dawns on me that not only had I not packed any headphones – I hadn't even put them on the list. I felt annoyed and silly at the same time. How could I have forgotten something so obvious? It was a salutary lesson in making sure that you make a list and check it twice (cue Christmas music). As it happens, there were plenty of headphones so I needn't have worried.

This year's team comprised Declan EI6FR, Tony EI3HA, Liam EI7DSB, Dermot EI5IQ, Anthony EI2KC (your writer), Rolf HB9DGV, Bernie HB9ASZ, Barry GM3YEH and Gordon GM7WCO.

The ferry from Magheraorty to Tory takes about fifty minutes on a good day. As it happens, our crossing was on one of the calmest days you'll ever see. To quote captain E.J. Smith in the movie Titanic, it was "like a millpond". Thankfully we had no Titanic-like maritime disasters and nobody brought their breakfast back up. (The return trip was a bit more dramatic).



Barry GM3YEH on 40mCW

We were staying in a house that was the easternmost property on Tory Island – quite a distance from the pier. Thankfully, Declan had arranged transport of all the equipment via van and car to the far end of the island. The house was really nice and had obviously been renovated in recent years. There were something like eleven beds (we only needed nine) and there was enough room in the living/dining room area to set up a number of stations without causing our master chef (Tony EI3HA) any discomfort. We quickly ascertained that the house was located near some cliffs and was close to the sea, so we were hopefully of good take-off. Propagation would have to play its part too, and thankfully it did.

With all the equipment accounted for, antenna erection and station set-up began almost immediately while Tony cooked

our first meal. We are really deeply privileged to have Tony on these trips. He is a fantastic chef and the meals are always extremely filling and satisfying. It would be easy to take something like that for granted, but he feeds the team well and we work well as a result.

We had a mixture of radios this year, including a couple of Yaesu FT-857s, an Icom IC-756 PRO, an IC-706 MkII, and Tony's old (but very reliable) Yaesu FT-747GX. Antennas were an MOCVO HW24HP off-centre-fed dipole, Sotabeam linked dipoles, the Iona linked dipole, GM3YEH vertical dipole, an 80m dipole and a HB9CV two-element mini beam for 6m.

With a couple of stations on air, we began our first night of what was to become a very successful activation, helped enormously by propagation that, while not giving us big openings or much action on the higher bands, gave us instead a steady drip-feed of stations, especially on 20 and 30m which were our "bread and butter" bands for the trip. To our surprise, some of the European stations were weak enough, and sometimes QSB would take them right away into the noise, and yet a lot of the UK stations were quite strong on 20m, up to 20dB over s9.



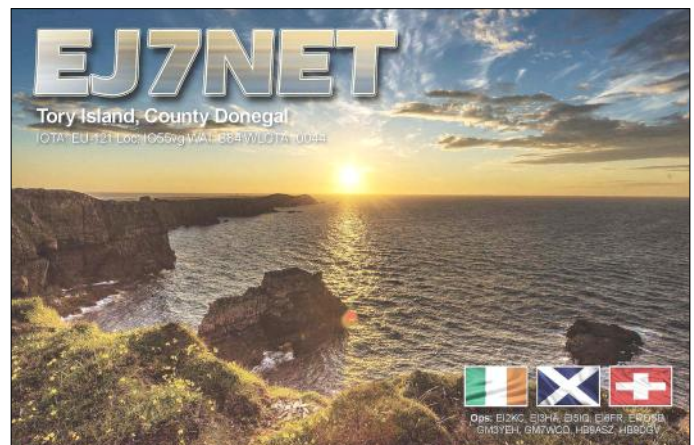
Anthony EI2KC on 40m SSB

log was K1TL, followed shortly thereafter by several more North American stations. I was delighted to have been on the key when these contacts were made. It was a real highlight and it shows what can be achieved with modest equipment. When I logged K1TL I let out a big shout of delight. Declan said that a man who was walking by the front of the house at the time jumped with fright. I'm sure it must have seemed odd, but that's how we celebrate making a transatlantic QSO on 6m!

By the end of the activation, which lasted about five days, we had three hundred and fifty 6m QSOs in the log. None of the openings was big – we didn't have many 59+20 signals, and some considerable effort was needed to get some of the European callers into the log. But we did have a couple of prolonged if somewhat subdued openings. I also ran some SSB where a good few calls were put into the log.

Extra-curricular activities

Another major highlight of this trip, and indeed previous activations, is the fact that we get the opportunity to see and explore an island, and to take in the various sights and sounds. Tory is a wonderful place. It's rugged and wild, battered relentlessly by ocean waves and strong winds coming off the Atlantic. But it's beautiful. It's got a raw beauty that I was thankfully able to capture with some of my photographs. It's five km long and one km wide. All along its north coast are cliffs of various heights, that fall dramatically off towards the Atlantic below. It is possible to walk all the way along the island from the western end to the east, along the edges of these cliffs. Of course it is dangerous to get too close, because occasionally some rocks or part of the cliff face can become loose.



EJ7NET-QSL-2016



Dermot EI5IQ on SSB

Digi modes and 6m

We were very well served by digital modes. We made QSOs in PSK31, PSK63, RTTY and JT65. I can safely say that we used more bands and modes on this activation than any of the previous EJ7NET trips that I have been on. Barry and Gordon managed to extend their 80m dipole for top band and made a couple of 160m QSOs. Contacts were achieved on every HF band from 160m through 10m, and there was even some action on 6m.

One of the highlights of the trip was the activity on 6m. Declan's plan was that we would have a dedicated station, as we had on Gola last year and Cape Clear the previous year. Except this time we were hoping for a better chance of some sporadic E activity, and indeed the "magic band" didn't let us down.

On the afternoon of Monday, June 13th, we managed several QSOs into the United States on CW. This was achieved with the HB9CV two-element beam at about 15 feet. First into the



EJ7NET-QTH on Tory Island

The most dramatic part of the islands in terms of cliffs and scenery was a place known as Dún Bhalóir (Balor's Fort), which incidentally was located not too far from where we were staying. Numerous trips were made up to Dún Bhalóir over the course of the five days. It was, at one time in the ancient past, used as a fort. Archaeologists call this type of fort a "promontory fort", from the fact that it is located on a promontory and therefore largely surrounded by the sea. Legend has it that the great Fomorian giant Balor had his prison here, where he kept his daughter Eithne locked away to prevent the fulfilment of a prophecy in which it was predicted that Balor would be killed by his own grandson. I won't spoil the story for you. Perhaps you will get the chance to explore Tory Island some day.

Tory only got full-time electricity in the 1980s, and power is supplied by a diesel generator in the western village not far from the pier. It can be an isolated spot too and when the weather is bad in winter, sometimes the ferry is unable to operate for several weeks at a time. During one winter in the 1970s, the island was cut off for three months.

The Government of the time proposed resettling the islanders on the mainland, but the islanders declined. They are a hardy and resilient kind, and one has to greatly admire them for continuing this harsh island existence. We were lucky that we were there at the height of the year, a week short of midsummer, when the sun set at 10.15pm and there was no darkness at night, just an endless twilight. This provided plenty of opportunity for nice photographs of course.

But EJ7NET 2016 will go down as my most memorable and enjoyable trip to date with this team. There are numerous reasons for this. We made more QSOs than the previous trips I was on. We used more bands and modes. The QTH was almost perfect. The scenery was fantastic. The camaraderie and companionship was super. The food was spectacular. And it was five very enjoyable and memorable days of ham radio.

The problem with calling DX on JT65

Am I the only one who finds it excessively annoying when a station calls "CQ DX" on JT65? It's not annoying because they don't want to work EU. I'm OK with that. It's up to each individual whether they want to work DX or not. What's annoying about it is that in WSJT-X, which is the software I use for JT65 and JT9, if you click on such a station their call comes up as "DX" and the software assumes you are working

Philippines, because DX is a prefix for that entity.

In order to work said station, you have to double click on them, and then replace the "DX" with their correct call sign, and all of this has to be done in that twelve seconds of time between his CQ and your reply.

The problem with this CQ DX phenomenon is that it's becoming more commonplace. I wonder if the operators in question realise that they are making it more difficult for stations to work them?

A recent example proves the problem. I decoded the following on JT65 on 17m:

"CQ DX HF9D JO90".

So in my "band activity" window in WSJT-X, I see the following:

0943 -2 1.3 625 # CQ DX HF9D JO90 !Philippines
(You can configure WSJT-X to show you what DXCC is being decoded).

Now assuming I am outside of Europe and I want to call this guy, if I double-click on this line in the band activity window, the "Dx call" tab gets populated not with his call sign, HF9D, but rather just "DX".

This instead of generating standard messages such as HF9D EI2KC IO63, what comes up is DX EI2KC IO63. It's just plain stupid.

Is there not an argument for these stations seeking DX to call as follows:

"CQ HF9D JO90 DX"? Or am I missing something?

Recent DX

Looking through my log, I see it was a bit of a sparse summer in terms of rare entities, and I have to confess that my levels of activity were lower than normal. Apart from the fact that I work full-time, I found myself immersed in other hobbies this summer, mainly music and photography. That's not necessarily a bad thing. I believe that too much of something can be detrimental, and variety is the spice of life. In addition to this is the fact that when I did switch on the radio to hunt down a special event station or an IOTA station, I found that everything had a pile-up. That's the way it goes these days. Everything that's even a little bit out of the ordinary has a pile-up. And often an unruly pile-up. Sometimes it's just not



Rolf HB9DGV on 30m CW



Tony EI3HA serving up another fantastic meal

worth the effort for an SES to wade through the QRM and bad behaviour. When you're hunting a new DXCC, and a rare one, of course it's worth the effort. But when you are struggling to work an IOTA or an SES you have to question your sanity!

Just as the last issue went to press, I worked our own Dave Deane as TF/EI9FBB. Dave was on an Icelandic IOTA, EU-178. The QSO was on 20m SSB. He told me it was raining in Iceland!

Here's just a short sample of other stations worked over the summer: XR0YS Easter Island, 20m CW; KH8/KC0W American Samoa, 20m CW (with 100 watts); JW/M0UNN Svalbard, 20m CW; A93JA Bahrain, 10m CW; FW5JJ Wallis & Futuna, 20m CW (with 100 watts); HR/F2JD Honduras, 20m CW; S21S Bangladesh, 20m SSB, through a simplex pile-up; TI2CC Costa Rica, 20m SSB; XX9TGM Macao, 20m CW, simplex with QRM; XE3D Mexico, 20m SSB; TR8CA Gabon, 20m RTTY – new country on digital modes; 3B9FR Rodriguez Island, 17m CW; RI1FJ Franz Josef Land, 20m CW; S79V Mahe Island, Seychelles, two slots; SU9VB Egypt, 17m RTTY – new country on digi modes; 5W0COW Samoa, 20m CW; ZY8M Brazil IOTA SA-045, 20m SSB; JT5FW Mongolia, several slots; HH2AA Haiti, 30m CW – new on 30; 5Z4/JM1CAX Kenya, 20m CW; S01WS Western Sahara, 30m PSK63; T88GA Palau, 20m CW (after 11pm in the evening!); XR18CE Chile, 20m RTTY; T2COW (third DXCC with KC0W, after KH8/KC0W and 5W0COW) Tuvalu, 17m CW.

I spent a bit of time during the summer on JT65, the low-power digital mode, and found it very enjoyable. It certainly provided a nice break from the pile-ups and QRM. I managed to work some really good DX, running low power (minimum 5w, maximum 25w). Here are some of the highlights: YV5JGO Venezuela, 17m; PY2JEA Brazil, 17m; VK4FNQ Australia, 17m; JA5TX Japan, 20m; ZS6C South Africa, 17m; 3DA0AY Swaziland, 15m; BA1PK China, 17m; VU2RMS India, 15m; HK2PMR Colombia, 20m; YB5QZ Indonesia, 17m.

Forthcoming DX

YX0V Aves Island

The much-talked-about possible activation of Aves Island, which has been announced and cancelled several times over

the past few years, is back in contention again. Here is the news as it was reported by dx-world.net:

An unexpected invitation from the Venezuelan Navy gave rise to a DXpedition to Aves Island — Isla de Aves — (YV0), currently number 17 on the Club Log DXCC Most Wanted List. While trying to organize its annual IOTA DXpedition to Los Monjes Island (SA-015), members of the Asociación de Radioaficionados de Venezuela (ARV) and Grupo DX Caracas received the surprise Navy invite. Aves Island was last activated on February 13, 2007, by YW0DX.

Plans call for an August 31 departure with “a restricted number of operators,” to including both experienced and new operators from the Navy. The exact dates of operation are dependent on the Navy. The group will be on the air for up to 10 days as YX0V, with the full support of the Navy. Despite the last-minute change of plans, a team has been chosen, as well as radios and antennas, and other logistics. The tiny Aves Island is situated west of the Leeward Islands. It's only about 1200 feet long and some 150 feet wide.

Obviously this is big news. If it goes ahead, it would provide me with the opportunity to try to catch an All-Time New One (ATNO). I'm sure several of you are in the same position. However, it's best not to hold one's breath in light of past failures, at least until YX0V is actually heard on the air.

VP6 Pitcairn Island

Nob, JF2MBF and Ken, JA2FJP will be active from Pitcairn OC-044 as VP6J between August 25 and September 3. QRV on 160-10m CW, SSB & RTTY. QSL via JF2MBF direct, OQRS, LoTW.

Uli, DL2AH will be active from Pitcairn Island as VP6AH between September 3 to November 25, 2016. Some days before the activity Uli will also be active from Mangareva/Gambier – call probably TX2AH or TO2AH).

E51 South Cook Islands

After their Pitcairn activity, Nob, JF2MBF and Ken, JA2FJP will be active from Rarotonga, Cook Islands as E51Q between September 8-29, 2016. QRV on 160-10 CW, SSB & RTTY. QSL via JA2FJP direct, Club Log OQRS, LoTW.

5H3 Tanzania

Chas, NK8O will be active from Zinga, Tanzania as 5H3DX between October 20 to November 12, 2016. QRV mainly on CW, 20-6m; hwhen time permits. QSLs will be via LoTW and eQSL. Paper QSLs via NK8O.

A3 Tonga

Masa, JA0RQV will be active from Niuafo'ou Island OC-123 as A35JP/P between September 28 to October 4, 2016. QRV on 80-6m; CW, SSB. QTH: Esia village. QSL via H/c.

J6 St. Lucia

Joe N7BF, Mac WT4BT, Bill AA4OC, Everett W6ABM, Scott AK5SD and Rex NX8G will be active from St Lucia as J6/homecalls between November 5-12, 2016. Operations on 80-10m all modes. QTH: Chateau Devaux, Cap Estate on the northern tip of the island.

YJ0 Vantuat

The aforementioned Tom KC0W will be active on Vanuatu as YJ0COW from August 20th to September 21st, on CW only.

TL Central African Republic

This single-man DXpedition with the call sign TL8AO is to take place in November. Ken LA7GIA is hoping to raise money for Doctors Without Borders, who have been providing humanitarian aid in CAR since 1997. la7gia.com.

T31W Central Kiribati

Not until next year, but this one is worth noting, and I'm sure is badly needed by many. It would be an ATNO for me.

5W0 Samoa

Nobuaki, JA0JHQ will be active from Fonoti, Samoa as 5W0JHQ between September 21 and 27. QRV on 160-10m CW, SSB & RTTY. QSL via home call and/or LOTW. Bob, VK2BOB will be active from La Uaina Seaside Resort, Samoa, as 5W0BOB between September 10 and 17. QRV on 40 & 20m SSB, holiday-style. Paper logs will be uploaded to QRZ and OQRS after return home. QSLs direct to VK2BOB with 3 green stamps, no QSL bureau.

E6 Niue

Nob, JF2MBF and Ken, JA2FJP will be active from Niue Island between September 20-29, 2016. Callsign not yet known. QRV on 160-10m CW, SSB & RTTY. QSL via JF2KOZ direct, Club Log OQRS, LoTW.

3D2GG Fiji

Nob, JF2MBF and Ken, JA2FJP will be active from Nadi, Fiji as 3D2GG during October 11-13, 2016. QRV on HF bands; CW, SSB & RTTY. QSL via JF2MBF direct, Club Log OQRS, LoTW.

T2 Tuvalu

Nob, JF2MBF and Ken, JA2FJP will be active from Funafuti, Tuvalu as T2J between October 4-10, 2016. QRV on 160-10 CW, SSB & RTTY. QSL via JA2FBY direct, Club Log OQRS, LoTW.

H44 Solomon Islands

Currently active from Tuvalu as T2COW, look for Tom KC0W to sign as H44COW from the Solomon Islands between October 25 to November 26, 2016. QRV on HF

bands, CW only. QSL: No LoTW – No Bureau – Direct via KC0W – DX \$2 – USA SASE.

The Perseverance DX Group (pdxg.net) is on schedule for next year's DXpedition to Central Kiribati (Kanton Island). We are planning fifteen days on the island during October 2017. Joining the team is Chris Tate, N6WM. Team members previously named are: Arnie N6HC, Kevin K6TD, Heye DJ9RR, Pista HA5AO, Laci HA0NAR, Gene K5GS, Les W2LK, Glenn KE4KY, Mike WA6O, Ricardo PY2PT and Steve W1SRD.

The expedition yacht Evohe from Dunedin, New Zealand will meet the team in Apia, Samoa for the estimated four-day sail to Kanton Island. The landing permit application is currently being reviewed by the authorities.

T31 is #18 most wanted on Clublog. However, the need in EU is significant for all modes. Getting a team to T31 requires a safe boat and qualified skipper/crew, this DX-pedition will not be inexpensive. The team is committed to paying 50% of the cost and we look to the DX community to help with the remaining 50%. The Donate function on T31W.com is now available for your use.

3Y Bouvet

This is a long way off – in early 2018 – but worthy of mention as Bouvet is the second-most-wanted DX entity. The planned team includes Ralph K0IR and Bob K4UEE who were part of the Navasa K1N dxpedition last year. bouvetdx.org.

There is another DXpedition (3Y0F) planned to Bouvet, led by UN7PCZ. As of this time, it's unclear whether it will happen in early 2017 or early 2018. Watch this space.

BS7 Scarborough Reef and FT4X Kerguelen

According to Mario I2MQP's DX news bulletin, a Chinese group is planning an activation of Scarborough Reef, which is the fifth-most-wanted DX entity. The same bulletin suggests an expedition is planned for the later part of this year to Kerguelen (FT4X). I will bring more news in the next issue if there are any updates.

That's it for this issue. I hope to hear you in the pile-ups. In the meantime, enjoy your HF activity and hopefully you will bag a few new ones. The photo below shows the view from EJ7NET on Tory Island at midnight. 73 de EI2KC





The EI0HQ Story

Dave Deane EI9FBB

Discussions began little over a year ago to set up a new DX Group in Ireland that would have the sole interest in 'Everything DX', with a primary focus on establishing an all 'Echo India' DXpedition team. To date, several meetings have taken place and the group have firm plans secured for a major DXpedition to take place early next year – watch this space!

At a previous meeting, it was decided that the group's first exercise would be to participate in the IARU contest which takes place each July. This would be an ideal opportunity for the whole group to get involved in working together as a team and also to for us to test various antennas, filtering, networking, etc. Immediately, there was huge interest amongst the group and a very strong team was soon formed. Thus, our intention was to replicate and simulate a DXpedition environment and to set up no fewer than seven stations, all within the same operating site. Garbally College in Ballinasloe was the obvious choice and with thanks to EI4CF & EI9HX this venue was arranged. A few phone calls later, and with the help of EI7GY, we had secured the exclusive use of the EI0HQ callsign and would be representing the IRTS as the national headquarter station of Ireland.

The IARU contest is an international contest with all licensed amateurs eligible to participate. The objective of this contest is to contact as many other amateurs as possible on both SSB & CW, especially IARU member society HQ (Headquarter) stations from all three IARU regions using the 160, 80, 40, 20, 15 and 10m bands. Multipliers are the total number of ITU zones plus IARU member society HQ stations worked on each band (not mode). Thus, your Society's HQ stations participation is very important for the multipliers. This year's contest took place from UTC 12:00 Saturday 9th July to UTC 11:59 Sunday 10th July 2016.

Plans soon turned to what equipment would be used and on what equipment we had available. Between the participating EI DX Group members, a vast amount of equipment was ready for the offering, ranging from multiple amplifiers, band pass filters, antennas, masts, coax, etc... To keep the logging

and networking all the same, the group purchased eight identical laptops and with thanks to Enda EI2II were all networked and were running N1MM+. As with all operations, there is never a shortage of radios; it's the other ancillaries that are usually required. In this case, we had everything. Remarkably, all radios produced for this event were all Icom and ranged from the IC7600, IC7400, IC756 to the newest IC7300 SDR radio. To maximise our QSO count, we needed to be QRV on both CW and SSB on each band at the same time! If there was to be a 10m opening for example, it needed to be exploited as this kind of opening usually disappears just as soon as it occurs. It could easily be missed and the old saying 'You snooze-you loose' comes to mind! At the same time, it's pointless in CQing on 160m during hours of daylight for example, so it was decided that the 10m station would also become the 80m/160m station and would have the capability of operating on both CW & SSB. A compromise, yes, but this was to be more of a training exercise rather than a serious contest entry. Without a competitive 160m receiving antenna, all we planned on was working our few European neighbours on top band anyhow. All the other six stations were to be in fixed positions, separating the CW positions from the SSB positions.

As mentioned earlier, there was a lot of interest amongst the group in this event and very soon we had compiled a list of sixteen operators all willing to arrive on the Friday and to help with the stations set-up. There were a lot of antennas to be erected and coax cables to be run! We were to have seven separate operating positions and a multitude of antennas.

Friday morning, team members began their journey to Ballinasloe. Some had to travel further than others, more brought caravans and trailer towers, but soon enough, a large proportion of the group were on site. This venue was already surveyed by some of the group in the Spring and so we already had a plan of action. To be fully independent, we decided on doing this whole operation on generator power. With all the current that would be needed to run our amplifiers a large diesel generator was hired and was soon to be delivered. An impressive power distribution board was built by Pat EI9HX with separate trip switches for each



EI7KD & EI9FBB show off their new tee shirts



EI4GZB, EI9FBB & EI5GM assemble the beam

power outlet. Each station position was to have its own outlet. All stations were set up in the main sports hall and had full WC / shower facilities along with ample upstairs space for sleeping quarters.

After a busy Friday, the group retired at about 8pm and visited a local restaurant in the town. This was a welcome break and much-needed refreshment after a hard day of setting up. We still were not finished but as the contest starts at 13:00 local on the Saturday, we still had a few hours available on the following morning.

As with most contests, the hours before are rather frantic, what with finishing the antenna set up, powering everything on, testing, etc... Band conditions were rather lousy however and just 1 hour before the start of the contest, the A index was at 23! After all our hard work, this would turn out to be a 20m contest! It's always challenging to compile a roster or operating schedule to keep everyone happy – some don't like getting up at 4am for example! However, when on a DXpedition this is exactly what happens as all shifts must get covered. Quite often, it's during these shifts when the band begins to open and when real DX can be worked.

The sports hall was buzzing with excitement for the minutes before the contest start. After a short team briefing and the much anticipated handout of the team Tee-shirts, each operator was soon in position, tuning and trying to find a good spot to start CQing. With the advancement in technology in recent times, it is much more difficult for the SSB guys to get spotted on the DX clusters. The CW stations soon get spotted and picked up by the skimmers and reverse beacons and soon nice pile-ups begin. It's important at this time for the SSB stations to try to find a good clear frequency. The countdown started and soon all seven stations began calling CQ.

The following minutes were spent rushing around fixing some issues and minor glitches. There was the inevitable bit of stray RF going around and Murphy was in attendance too. However, once we learned what we could and couldn't do, everyone soon found their rhythm. Each shift was for 3 hours with 6 hours of off time. Some opted for extra shifts and operated both modes. Despite any initial issues, each station was manned and we had a real strong presence on the

bands...we were on 10m, 15 CW & SSB, 20 CW & SSB, 40 CW & SSB all at the same time! SSB was a struggle on some bands, propagation wasn't co-operating. CW definitely is the better mode and gets through where SSB doesn't. Still though, by having seven stations all QRV at the same time racks up the QSO count fairly quickly. We did not have a multiplier station. As a HQ station, it's much more important to be running so the hoards can come and get us instead! Although we are allowed 1500W for this contest, each station ran anywhere between 400 - 800 watts.

We also had some special visitors to our station. Liam EI7DSB, John EI5HDB & Ronan EI5HRB all travelled up from Limerick as did Richard EI5GUB from Co. Longford. From the other side of town, Enda EI5GMB & Maurice EI5BLB popped in to say hello too and even our Vice-President Jim EI4HH, travelled from Dublin and got rostered with a CW shift for his troubles!

Right from the beginning, this was a training exercise, an opportunity to get to know each other along with our equipment. We were never going to be competitive amongst the big contest stations. DA0HQ and GR2HQ for example, operate this contest from several mega fixed-site contest stations scattered all around the country, all of which have evolved through the years. As a HQ station there are no restrictions on antennas, so...imagine doing this contest from EI7M, EI1Y, EI9E, etc. ...all at the same time! What we did try to do was to set a new EI record and although a little early for the actual official results....it seems that we did! Overall, we finished off with over 4,500,000 points, with an impressive 5,352 QSOs...all in twenty-four hours!

The whole team meshed incredibly well and a great weekend was had by all. Each played an important part and proved invaluable to the group. Talks have already begun for a repeat again for next year. Special thanks to the eleven EIs who made it into our log, to DA0HQ for being the only station to work us on all twelve possible band/mode slots, to Fergus EI6IB for all his help, to Pádraic EI5IX who travelled from the UK to participate with us and to Dave EI4BZ whose work is just about to begin as QSL manager! We are most grateful to all at Garbally Collage for the use of their excellent facilities and kindness.



EI5IX on CW



EI6JK on SSB



Excerpts from the HX files

Pat Fitzpatrick EI2HX - Excerpt 036

Hello and welcome to Xtract 036 of the HX files.

In this issue I would like to talk about some parts that were purchased at the Friedrichshafen rally in June. Spend, spend, spend!

Not wanting to start on a downer, but just to get it out of the way, those of you who attended the rally this year could not have failed to notice that the amount of stalls and people were down a bit from last year. However, that did not take away from the fact that I found it a brilliant rally as usual, and bought



Photo 1

way too much (or so I thought). In photo 1 I have laid out most of the items bought at the rally. Items purchased include some 12 and 24v coaxial relays; they were of different types, some 3 and 4 pole SMA type and some 3 and 4 pole N type relays. Plenty of various lengths of patch lead with SMA and N type terminations either the same fitting at the end or the other type; some are inline and others have a right angle and others are fitted with a chassis fitting so they connect the aerial to the transmitter with one less connector needed. I also bought a few project boxes / cases. Some of the cases were of a flat pack type, (the two larger boxes) which meant that they would not take up as much space in the suitcase and they could be placed into other things for the trip home.

Some of them will be used more or less right away and others will be resting in one of the storage sheds, as I could not leave them behind me. On top of the larger boxes the black item is a rubber boot, not for your feet but for you to put your pole through it first, covering a bearing. This particular boot has an internal diameter of 60mm other shapes and sizes were available.



Photo 2

Non ATV (what!!!!)

Not everything purchased was aimed at ATV; I did suffer from some strong weaknesses over the weekend, (nothing to do with the excellent German beers *hic,hic*). In photo 2 you can see some other items that are for other bands, some baluns and ununs, a couple of Morse keys, and a 10m telescopic pole (It retracts when not in use to 60cms). When being used a length of wire can be fed through a small hole in the bottom of the mast and then tied into a knot at the top whilst the mast is still less than a meter in length, and the other end onto the balun, and a 50m role of 4mm string that will be to help stay it. (And anyway it is handy to have in stock).

The two connectors on the middle left are both ends of an in line seven-pin connector that can be used for any quick release items made later. While they look as good as new, they have been used and what ever they were connected to, their cables were cut right against the connector itself, so only a small job of opening them and some de-soldering needs to be done to get them ready for their next project.



Photo 3

In photo 3 you can see most of the relays I bought. The rest of them have been put into other projects that I had taken relays from over the last few months. As mentioned earlier they are of various voltages, fittings and RF power handling.



Photo 4

In photo 4 you can see on the right side some "bow tie" aerials for 23cms and on the bottom and left are a couple of the different types of patch leads. The two large "electronica" boxes are the flat pack project cases previously mentioned and the smaller ones are a couple of 240v ac to 15v dc power supplies.



Photo 5

Photo 5 shows some pre-amps, power amplifiers and digital displays. The larger box on the right side of the photo is a 23 cms transmitter and just above it is a control panel for it. The other items in the photo include 13 cms amps and pre amps. And finally, Now that I have some more new goodies from the rally it will soon be time to look at some of my past projects and see if I can add to them. Who knows what I will make up.

Having started on a negative tone, please let it be known that I had a great time at the rally, and the hotel is already booked for next year. On the subject of next year the date has changed from its usual time in June and is now scheduled for the 14th – 16th of July. So start saving and I hope to see you there.

That is it for this issue of the HX Files and I hope your signals are all P5.
73 Pat.



Contest News

Joe Ryan EI7GY

contestmanager@irts.ie

IRTS Contest Results

40m Counties Contest (8th May)

Single band HF contests can be a challenge at the best of times, but “gruelling” would be a more appropriate description for this event, which took place in the aftermath of a geomagnetic storm. By early morning on the day of the contest, the K-index was 6, later rising to 7. Local QSOs during the contest period were virtually impossible. Thanks to participation by a number of overseas stations, some logs show reasonable QSO numbers – although the scarcity of EI/GI multipliers kept the scores well down.

CW Field Day (4th/5th June)

These field day contests coincide with similar contests in other IARU Region 1 countries. Being field days, the pace is more relaxed than many other international contests. Four contest logs were submitted for CW Field Day, with some good scores achieved in unspectacular band conditions, which delivered only brief openings on 10m and 15m.

VHF/UHF Field Day (2nd/3rd July)

Eleven contest logs were received for VHF/UHF Field Day; band conditions for this contest were described as “flat”, with just occasional Sporadic-E. However, some DX was worked: logs received included 130 QSOs with stations more than 500 km away (including 6 QSOs over distances of 1000 km+)

Section winners for these contests are shown in the table on page 28, while photos of some of the action in the VHF/UHF Field Day contest are on page 29.

Contest Calendar and Rules

The contest “community” among our members is small, although not insignificant: to date this year, just over 50 members have submitted one or more contest logs for IRTS contests, while another 50 have participated in at least one IRTS contest without submitting a log. Some EI contesters focus mainly on the big international contests and show little interest in competing in the local IRTS events.

We are running 10 contests this year, 3 (IARU-linked) field days and 7 counties contests. In planning the contest calendar and rules for 2017, here are my current thoughts, based on the experience of recent years and feedback from members:

Field Day Contests

Participation in the three field day contests has remained at a low level in recent years, despite some tweaking of rules to make them more accessible, including the introduction of 6-hour sections for the HF contests. These contests are IARU-linked and I propose leaving them in place.

Two Metres Counties Contests

These are the original “counties contests” and are generally well-supported, particularly the Easter Monday event. These contests have 6 sections, with “High” and “Low” power sections for both the fixed and portable multimode sections;

the added value in having two separate power limits is minimal (the low power stations have frequently returned higher scores), so I suggest that we remove this power distinction and introduce a single 100W upper limit, to give 4 sections:

Portable SSB & FM (max 100W)
Fixed SSB & FM (max 100W)
FM only – Single Op. (max 100W)
SWL

HF (daytime) Counties Contests

Our 80 metres January counties contest – generally held on New Year’s Day – is the best supported event in the IRTS contest calendar. This year, we decided to have two 40 metres counties contests, in May and October respectively. The May event was adversely affected by propagation – always a variable for any radio event – so we can only hope for better luck in October. These daytime HF contests are three hour events, a long time for a local single-band event. A number of participants have suggested that they be reduced to two hours’ duration, and based on my own experience, I am inclined to agree. I suggest we cut out the first hour – i.e. start an hour later – to retain the benefit of changing propagation later in the day.

Although I am personally a fan of operating portable – to overcome antenna size limitations at the home QTH – I question the logic in having separate portable sections in the HF Counties Contests. Should we drop these separate portable sections? This would not prevent anyone from operating portable, but they would compete in the same section as fixed stations.

HF (evening) Counties Contests

We introduced one-hour 80 metres evening contests this year. The SSB event in February was very well supported (37 logs) and I am hoping for a similar level of support for the CW event in November. No change proposed.

70 cms Contest? This has been suggested by a member. I have little experience of 70 cms myself, so I’m not sure what level of support there would be for such a contest. I await some feedback on this. For any new VHF/UHF contest, I suggest we continue using the counties format, which is well understood and very popular (and is fairer than locator-based distance scoring, which favours south and east coast stations).

Awards

One suggestion that has been made on a number of occasions is that we look for a minimum number of QSOs in a log before an award can be given. I think this makes sense, and propose that there be a minimum number of valid QSOs for award eligibility, as follows:

Station logs: minimum of 10 valid QSOs (5 valid QSOs in the case of a 23 cms contest section)

SWL logs: minimum of 5 valid QSOs

Logs with fewer QSOs would be welcome and would be listed, but would not be eligible for an award.

What is your view? (email contestmanager@irts.ie)

1. Removal of high/low power distinction for Two Metres Counties Contests, single 100W limit
2. Reduction to two hours (starting one hour later) for daytime HF Counties Contests
3. Dropping the separate portable sections in the daytime HF Counties Contests
4. Likely level of support for a 70 cms Counties Contest
5. Introduction of a minimum number of valid QSOs for award eligibility

Forthcoming IRTS Contests

SSB Field Day – Saturday 3rd September at 13:00 UTC
(24h)

40m Counties – Sunday 9th October at 12:00 UTC (3h)

80m Evening Counties – Tuesday 8th November 20:00
UTC (1h)

Links:

Contest rules & calendar:

www.irts.ie/contests

Contest results:

www.irts.ie/results

IRTS Contests : Section Winners

40 Metres Counties Contest, 8th May 2016	
SSB Only Fixed (EI/GI)	EI9HX, Patrick O'Connor
SSB Only Fixed outside Ireland	G3PXT, Gordon Higgins
SSB Only Portable (EI/GI)	EI7T/P, Tipperary Amateur Radio Group op: EI3ENB
SSB Only Portable outside Ireland	GØOIW/P, Mark Palmer
SSB/CW Fixed (EI/GI)	EI5KF, Gerard Scannell
SSB/CW Portable (EI/GI)	EI5KJ/P, Keith Crittenden
CW Field Day, 4th/5th June 2016	
Open Section	EI5KF/P, Gerard Scannell
Restricted / 24 hour Section	EI1C/P, Cork Radio Club ops: EI4BZ, EI6BT, EI9FBB
Restricted / 6 hour Section	EI7GY/P, Joe Ryan
VHF/UHF Field Day, 2nd/3rd July 2016	
Open Section	EI9E/P, Network Southern Area Radio Experimenters Club ops: EI2FG, EI3JE, EI3JZ, EI3KD, EI7FJ, EI9HQ, G4BVY, G4CLA, MØWLF
50 MHz	EI7DAR/P, Dundalk Amateur Radio Society ops: EI2CN, EI3KE
70 MHz	EI1E/P, Avondhu Radio Club op: EI4KH
144 MHz	EI9GRB/P, Hans Krauss
432 MHz	EI7HIB/P, Joe Cherry
1296 MHz	EI7FAB/P, John Browne



Mr Hans Krauss EI9GRB



Denis O'Flaherty EI4KH



Mike Fallon EI5HZB

EI DXCC Single Band Status as at 31st August 2016

Compiled by Joe Ryan EI7GY

		160	80	40	30	20	17	15	12	10	6	2
10	EI2JD	160	80	40	30	20	17	15	12	10	6	
10	EI3IO	160	80	40	30	20	17	15	12	10	6	
10	EI7BA	160	80	40	30	20	17	15	12	10	6	
10	EI9FBB	160	80	40	30	20	17	15	12	10	6	
9	EI2GLB		80	40	30	20	17	15	12	10	6	
9	EI6IZ	160	80	40	30	20	17	15	12	10		
8	EI6FR		80	40	30	20	17	15	12	10		
8	EI7GY		80	40	30	20	17	15	12	10		
8	EI9FVB		80	40	30	20	17	15	12	10		
7	EI1DG		40	30	20	17	15	12	10			
7	EI4BZ		80	40	30	20	17	15		10		
7	EI8IU		40	30	20	17	15	12	10			
6	EI7JZ		40		20	17	15	12	10			
5	EI4CF		40		20	17	15		10			
5	EI4GJB				20	17	15	12	10			
5	EI6AL				20	17	15	12	10			
5	EI6JK		40		20		15	12	10			
5	EI8GS		80	40		20		15		10		
5	EI9E		80	40		20		15		10		
5	EI9GLB				20	17	15	12	10			
5	EI9JF		40	30	20	17	15					
4	EI3GV				20	17	15		10			
3	EI3CTB				20		15		10			
3	EI4GK				20		15		10			
3	EI4GNB				20		15		10			
3	EI4HH				20		15		10			
3	EI6FM				20		15		10			
3	EI6HB				20		15		10			
3	EI7GL		40						10	6		
3	EI9HQ				20		15		10			
2	EI2II				20				10			
2	EI5IF				20		15					
2	EI7IG				20		15					
2	EI7JN				20		15					
2	EI8JX				20		15					
1	EI3EBB									6		
1	EI3HA				20							
1	EI4DQ										2	
1	EI5EV								10			
1	EI5FQB				20							
1	EI5GSB				20							
1	EI6S		80									
1	EI8IQ				20							
1	EI9CJ									10		
		160	80	40	30	20	17	15	12	10	6	2

News from the Clubs and Contest Participation

We welcome regular contributions from all individual members and clubs affiliated to IRTS telling us about activities which can be shared with our members.

We particularly welcome items accompanied by clear crisp photos (pixels are precious), together with (separate) captions identifying everyone.

Please let us know what you have done and what you are planning.

The way to get your news items printed is to make it easy for us to print them!

The Editor

EI DXCC Listings - Compiled by Joe Ryan EI7GY as at 31 August 2016

Entries in Bold Type show changes since 21st May 2016

Mixed	238	EI5GM	129	EI3CTB	173	EI9E	104	EI7IG	167	EI1DG
	357	EI6S	230	EI7GY	121	EI6HB	173	EI9GLB (+2)	166	EI4HH
	353	EI7CC	211	EI1DG	108	EI5IF	171	EI7JN	165	EI9E
	348	EI6FR	200	EI8JX			161	EI6JK	324	EI7BA
	346	EI8EM	190	EI9FVB	160m		161	EI7GY	281	EI9FBB
	345	EI7BA	169	EI7IG	250	EI7BA	152	EI8JX	207	EI8IU (+3)
	334	EI3IO (+8)	168	EI4HH	213	EI3IO (+1)	151	EI6FM (+37)	202	EI9FVB
	333	EI9FBB	164	EI7JZ	142	EI6IZ	145	EI6HB	181	EI6FR (+1)
	329	EI5GM	127	EI9CF	138	EI9FBB	144	EI4GJB	164	EI2GLB
	328	EI9O	126	EI4BK	122	EI2JD	139	EI9HQ	155	EI6IZ
324	EI2GLB	115	EI9E			135	EI4HH	151	EI6AL	
312	EI8FH	113	EI2KK	80m		133	EI5IF	147	EI2JD	
310	EI4II	109	EI2IH	310	EI6S	132	EI5FQB	140	EI6JK	
307	EI6IZ	104	EI6HB	298	EI7BA	130	EI3GV	130	EI1DG	
306	EI2HY	100	EI3CTB	244	EI9FBB	130	EI6AL	128	EI3IO (+22)	
306	EI4CF	100	EI3KE	166	EI2JD	126	EI3CTB	124	EI7JZ	
305	EI8IU (+5)	100	EI3KG	165	EI6FR (+1)	126	EI3HA	117	EI7GY	
303	EI2CR			151	EI3IO (+9)	117	EI4GNB	103	EI9GLB (+3)	
296	EI2JD	Phone		137	EI6IZ	115	EI7IG	100	EI4GJB	
295	EI9FVB	354	EI6S	120	EI2GLB	113	EI4GK	10m		
287	EI9JF	351	EI7CC	119	EI4BZ	112	EI8IQ	307	EI7BA	
283	EI7JZ	346	EI8EM	108	EI7GY	105	EI2II	284	EI9FBB	
279	EI9GLB (+4)	343	EI7BA	107	EI9E	102	EI5GSB	262	EI3IO (+5)	
269	EI8GS	338	EI6FR	103	EI8GS	17m		227	EI2GLB	
265	EI4BZ	331	EI8AR	100	EI9FVB	334	EI7BA	221	EI6FR	
264	EI6AL	321	EI9FBB	40m		306	EI9FBB	211	EI9FVB	
262	EI2GX	309	EI3GV	318	EI7BA	291	EI6FR (+3)	199	EI4CF	
248	EI1DG	307	EI3IO (New)	257	EI9FBB	236	EI8IU (+9)	197	EI2JD	
243	EI6JK	303	EI9HX	248	EI6FR (+2)	225	EI6IZ	197	EI8IU (+6)	
242	EI5GUB	300	EI4GK	209	EI4CF	210	EI2GLB	183	EI4BZ	
237	EI7GY	291	EI2GLB	208	EI6IZ	202	EI9FVB	173	EI6JK	
235	EI4HH	288	EI9FVB	202	EI2JD	191	EI2JD	171	EI8GS	
230	EI4GXB	280	EI2JD	202	EI3IO (+17)	166	EI6AL			
215	EI6FM (+28)	279	EI9GLB (+4)	191	EI2GLB	163	EI7GY			
214	EI5IF	275	EI4CF	177	EI9JF	162	EI4CF			
210	EI6IL	273	EI8IU (+7)	154	EI6JK	148	EI7JZ			
209	EI7JN	272	EI7JZ	139	EI4BZ	146	EI9JF			
203	EI9E	269	EI8GS	138	EI7JZ	142	EI1DG			
193	EI3HA	241	EI6JK	134	EI9E	127	EI4GJB			
191	EI6HB	225	EI9JF	129	EI8GS	121	EI9GLB (+1)			
189	EI9HQ	222	EI8FH	120	EI7GY	110	EI4BZ			
188	EI4IR	213	EI7GL	117	EI7GL	108	EI3GV			
175	EI7IG	212	EI4HH	111	EI1DG	15m				
174	EI3CTB	211	EI6FM (+27)	107	EI8IU (New)	333	EI7BA			
165	EI5EV	209	EI4BZ	30m		308	EI6FR (+3)			
161	EI9CN (+25)	208	EI4GJB	332	EI7BA	304	EI9FBB			
160	EI4GZB	200	EI6IL	256	EI9FBB	251	EI4CF			
160	EI5FQB	198	EI9E	243	EI6FR (+4)	250	EI2GLB			
158	EI4GNB	191	EI3HA	231	EI3IO (+8)	243	EI9FVB			
135	EI9CF	188	EI2CH	225	EI6IZ	242	EI8IU (+7)			
131	EI5GSB	186	EI7II	167	EI9JF	231	EI2JD			
128	EI8HA	186	EI9HQ	159	EI2GLB	227	EI3IO (+23)			
127	EI9CJ	185	EI6AL	156	EI7GY	216	EI6IZ			
116	EI6CPB	177	EI5IF	124	EI2JD	202	EI4BZ			
115	EI5JQ	177	EI9FE	120	EI4BZ	193	EI6JK			
104	EI9GWB	160	EI2II	106	EI9FVB	181	EI8GS			
103	EI3HDB	160	EI5FQB	102	EI1DG	179	EI9E			
101	EI7JQ	160	EI6HB	20m		178	EI1DG			
101	EI8JB	159	EI9CN (+25)	340	EI7BA	162	EI6AL			
100	EI3GAB	143	EI3CTB	336	EI6FR	151	EI7GY			
100	EI4HQ	137	EI4GNB	326	EI9FBB	148	EI4HH			
100	EI8KF	131	EI5GSB	261	EI3IO (+10)	139	EI9GLB (+1)			
		116	EI6CPB	257	EI2JD	136	EI6HB			
		105	EI1CS	256	EI4CF	126	EI8JX			
		103	EI3HDB	251	EI9FVB	122	EI3CTB			
		103	EI6GGB	248	EI2GLB	120	EI4GJB			
		102	EI1DG	242	EI8IU (+9)	119	EI4GNB			
		102	EI4DJB	238	EI6IZ	113	EI3GV			
		101	EI3IP	217	EI9JF	109	EI7JN			
		100	EI3GAB	211	EI8GS	107	EI5IF			
				206	EI7JZ	105	EI9HQ			
				196	EI4BZ	105	EI9JF			
				186	EI1DG	104	EI4GK			

DXCC Honor Roll

Mixed		Phone	
339	EI6FR/348	337	EI7BA/343
339	EI7BA/345	337	EI8EM/346
338	EI7CC/353	336	EI6S/354
337	EI6S/357	336	EI7CC/351
337	EI8EM/346	330	EI6FR/338
330	EI3IO/334 (New)	CW	
330	EI9FBB/333	334	EI7BA/339

DXCC Challenge

2911	EI7BA	1155	EI1DG
2526	EI9FBB	1090	EI6JK
2083	EI6FR (+14)	1083	EI7JZ
1964	EI3IO (+116)	1059	EI5GM
1767	EI6IZ	1018	EI9JF
1729	EI2JD		
1726	EI2GLB		
1720	EI7CC		
1500	EI9FVB		
1466	EI4CF		
1446	EI8IU (+56)		
1160	EI7GY		
1156	EI4BZ		

The following Silent Keys were holders of DXCC Awards

DXCC Honor Roll			
Mixed		CW	
336	EI8H/365	109	EI4HM
331	EI2GS/340	Phone	
		338	EI2GS
DXCC			
Mixed		300	EI8AU
365	EI8H	114	EI4EX
340	EI2GS		

Silent Key
Séamus Naughton
VE3EIA / EI9BD



The sudden and unexpected death occurred of Séamus Naughton EI9BD/VE3EIA in Toronto, Canada on 18th July 2016. He was originally from Ballina, County Mayo.

Séamus graduated as an electrical engineer from University College, Cork, and emigrated to Canada in 1965. He enjoyed a long career working on engineering projects all over Canada, and subsequently worked for the Western Health Board in Ireland. Séamus maintained his strong connection to Ireland, and his passing has left a great void in the lives of many.

May he rest in peace

Silent Key
Raymond Blythe
MI0VFO



Raymond MI0VFO, of Bready, Strabane, Co. Tyrone, passed away on 30th June 2016. Ray was a founding member of the Foyle and District Amateur Radio Club.

He was an instructor for the Foundation and Intermediate level RSGB courses and a keen CW operator and instructor.

May he rest in peace

Silent Key
Vincent Long EI5IO

Vince EI5IO, of Shanakiel, Co. Cork passed away on 5th March 2016. He was laid to rest in St. Catherine's Cemetery, Kilcully.

May he rest in peace

Silent Key
Raymond McAteer
GI4MFM / EI9DQ

Raymond GI4MFM / EI9DQ, of Garvagh, Co. Derry, passed away on 3rd May 2016 after a long illness.

May he rest in peace

IRTS Shop

IRTS Members can avail of a 10% discount on purchases from the RSGB on line shop.

IRTS members should select the "**Non members Price**" before placing the order and then enter the special IRTS Discount Code during the checkout process. At this point the 10% discount will be calculated.

IRTS members who are also RSGB members should continue to select the "**RSGB Member's Price**" and not use the IRTS Discount Code.

The IRTS Discount Code will change from time to time. Currently the Code is: **IRTS2020XWW**

The RSGB Shop can be accessed from the link on the IRTS website or at

www.rsgbshop.org

The RSGB Shop stocks a comprehensive range of books on radio and related topics by RSGB and other publishers.

Echo Ireland - the Journal of IRTS, the Irish Radio Transmitters Society, is published quarterly. The Society also publishes **EiNews** - a monthly newsletter.

Private advertisements from paid-up members are published free of charge.

Articles and event information for publication are welcomed. Send your manuscript to newsteam@irts.ie as a word-processing file attachment, **not as a PDF**. Please do not attempt to format the document to look like a printed page. Images and illustrations should be embedded in the file *for position only*. They should also be sent as separate file attachments in high resolution. Make sure to put captions for all images and illustrations at the end of the article, rather than embedded within the images or the main text of your article. Please include the full names and call signs of people included in photos and where necessary obtain their permission.

All material published is subject to editing for length, clarity, style, repetition, exaggeration, spelling, punctuation, grammar, legality and taste. Permission may, on their request, be given to other societies to reproduce articles. Matter published or opinions expressed in either publication do not necessarily reflect the opinions or policy of IRTS.

IRTS QSL Service
Special Event Call Signs

The outwards and inwards QSL service is available free to IRTS members, whether individuals or clubs, for their own call and for special event stations licensed to them.

The service is also available free to JOTA stations, irrespective of whether an IRTS member is the licence holder. Operators of Special Event stations should supply details of their Special Event call to the relevant incoming QSL Manager.

Echo Ireland
December 2016

Copy deadline - **15th November**
 Articles to newsteam@irts.ie

Members Ads

ACOM 1000, excellent condition, with manual and original packaging, €1700 ono

ACOM 1500, excellent condition, with manual & original box, €2600 ono.

Wouxun KG-UV920P-E, 2m/70cm mobile, spotless, with manual, leads etc. €160 ono.

Icom IC-M700 with mike and manual.

Mirage B34 2m FM amps, 5w in 35w out, €90 each. 2m FM amp, 10w in 75w out, €160.

Colm EIØCT, 086 894 5260

williamcolmnolan@gmail.com

Yaesu FT847 160m to 70cm, with

50W on 4m, in nice condition.

Non-smoker. Case with power lead and

mic €800. **Noble Radio NR-4SC** 4m

SSB/CW transceiver as new with power leads, no mic. €400.

Declan EI9HQ 085 781 1290 or

ei9hq@uksmg.net

Kenwood TS-480HX 200W HF Transceiver €750.

Icom IC-7100 HF/UHF/VHF

Transceiver with D-Star -4m €950.

Ameritron ALS-600 (ATU) 600W

HF/50Mhz linear amp with PSU

€1150.

Kenwood TMD710 VHF/UHF

+APRS transceiver €210.

MFJ993B 300w auto-tune HF ATU

€185.

Rigblaster Pro Digital Computer

interface and all cables €150.

Watson W45XM 40amp heavy duty

transformer PSU €140.

Daiwa PS304 30amp PSU €90.

AV-1000SWR VHF/UHF Meter €50.

MyDel MP50SW 50amp PSU €140.

Dave EI7BFB 086 332 1159

Yaesu FT-2000 and matching **DMU-2000**, both in perfect condition.

Software fully up-to-date, no mods.

Original mike, manuals and shipping

boxes. €2000

Jim EI4HH 086 4071 185 or QTHR.

Icom IC756 Pro2. Perfect condition. (used as part of the EIØHQ station in the IARU contest). User and service manuals on CD. No box. €900 ono. Brian EI8IU 086 105 7325

Flexradio 6300 and ATU, still under warranty €2200 or W.H.Y.

Francis EI3GQB 087 229 1715

Free: 3 Scaffold Poles approximately 12' long. Free to take away in the

Drumcondra area. **For Sale: Kenwood TR9130** 2m multi-mode. Mic, power lead, manual €200.

Kenwood TS-120V + Kenwood external **VFO-120HF** Transceiver, mic, power lead and operator manual €300. Joe EI4GX 083 181 3548

Wanted: Drake L4B, RF Deck for parts, condition unimportant. Will collect, Dave EI5KG, 087 242 5643

Wanted: Control Box for Yaesu G-400 rotator (or including rotator if unable to separate) Declan EI6FR

ei6fr@gofree.indigo.ie 086 402 7652

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V-2000	2.15/6.2/8.4 db	€135
X-50N	4.5/7.2 db	€79
X-30N	3/5.5 db	€59

